The Adobe Photoshop Layers Book

The fish in the seas, and the poor furry things that end up on my doorstep.

The Adobe Photoshop Layers Book

Richard Lynch

ELSEVIER

AMSTERDAM • BOSTON • HEIDELBERG • LONDON • NEW YORK • OXFORD
PARIS • SAN DIEGO • SAN FRANCISCO • SINGAPORE • SYDNEY • TOKYO
Focal Press is an imprint of Elsevier

Focal Press

The fish in the seas, and the poor furry things that end up on my doorstep.

Focal Press is an imprint of Elsevier
The Boulevard, Langford Lane, Kidlington, Oxford, OX5 1GB
225 Wyman Street, Waltham, MA 02451, USA

First published 2012

Copyright © 2012 Richard Lynch. Published by Elsevier Ltd. All rights reserved

The right of Richard Lynch to be identified as the author of this work has been asserted in accordance with the Copyright, Designs and Patents Act 1988

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or any information storage and retrieval system, without permission in writing from the Publisher. Details on how to seek permission, further information about the Publisher's permissions policies and our arrangement with organizations such as the Copyright Clearance Center and the Copyright Licensing Agency, can be found at our website: www.elsevier.com/permissions

This book and the individual contributions contained in it are protected under copyright by the Publisher (other than as may be noted herein).

Notices
Knowledge and best practice in this field are constantly changing. As new research and experience broaden our understanding, changes in research methods, professional practices, or medical treatment may become necessary.

Practitioners and researchers must always rely on their own experience and knowledge in evaluating and using any information, methods, compounds, or experiments described herein. In using such information or methods they should be mindful of their own safety and the safety of others, including parties for whom they have a professional responsibility.

To the fullest extent of the law, neither the Publisher nor the authors, contributors, or editors, assume any liability for any injury and/or damage to persons or property as a matter of products liability, negligence or otherwise, or from any use or operation of any methods, products, instructions, or ideas contained in the material herein.

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

Library of Congress Number: 2011937322

ISBN: 978-0-240-52252-4

For information on all Focal Press publications
visit our website at www.focalpress.com

Printed and bound in Italy

12 13 14 15 10 9 8 7 6 5 4 3 2 1

Working together to grow
libraries in developing countries

www.elsevier.com | www.bookaid.org | www.sabre.org

ELSEVIER BOOK AID International Sabre Foundation

Acknowledgments

Focal Press continues to make writing and publishing worthwhile and enjoyable, which is not the general experience in the industry. Though the crew has changed, excellent staffing continues, and projects that I was ready to abandon continue with Focal Press. Wow, Stacey… Indescribable gratitude.

Thanks to the management at PPSOP.com and PhotoshopCafe.com for hosting my online courses. And thanks to the hundreds of students who keep my eye on the ball as to what people learning the program really need (and not just what is conceptually cool).

Much appreciation to many who contribute directly and indirectly by actually being interested or pretending to be: Greg Georges (gregorygeorges.com) and Al Ward (actionfx.com), Todd Jensen (thefineartoriginals.com, toadprint.com), Fred Showker (60-seconds.com), Barbara Brundage, Luke Delalio (lukedelalio.com), Lisa, Julia, Isabel, Xoe, Elsa, and various Lynches, Nardecchias, and Hongs.

Lingering thanks … Mitch Waite, Stephanie Wall, Beth Millett, Bonnie Bills, Pete Gaughan, Dan Brodnitz, Robert Blake, Alan R. Weeks, Kevin Harvey, Larry Woiwode, Tony Zenos, Joe Reimels, Hagen-Dumenci, Dr. Fun, Murphy (1988–2007), Sam (1989–2009), Adobe, Apple, Sigma, AT, VDL, VOL, VT, TV, SB, P-G, TCK, DL, JK, SC, LM, Anna B., and other pairs of initials, divorced initials, and seconds.

Introduction

Any time you try to develop a skill, you want to make sure that you take advantage of the basic tools of the trade. If you were a bus driver, you would want to be sure you knew how to use the key, gas pedal, brake pedal, clutch, shift-stick, turn signals, and steering wheel, and where the gas goes to be sure you were going to be able to navigate the bus successfully. Knowing where the lighter is, or the location of the switch for the personal fan, is helpful, but not really necessary for getting the job done. Likewise, when using your camera, you want to understand focus, shutter speed, aperture, and ISO, and know how to use the viewfinder to frame the shot, how to hold the camera, and how to use the shutter release. There are extras like the shutter timer, depth of field viewer, exposure modes – all arguably options for shooting good images, but less important than the essentials.

If you have bought Photoshop to edit images, there are basic tools and concepts that you need to know to get the best results. Of these, one of the most important is layers. Layers are the key to success. They are the gear-shifter, gas pedal, brake pedal, turn signal, and steering wheel that help you navigate corrections successfully. If you think of correction tools and functions as the fuel in this scenario, the bus goes nowhere without that. It is the harmony of the workings that allows the driver to get the bus from stop to stop, and, in turn, gets the passengers to their destinations.

The Benefits of Layers

The benefits of layers include:

- Non-destructive image editing
- Isolating image changes so they can be reversed or further manipulated
- Storing image versions in a single file
- Organizing your approach to image correction
- Creating your own repeatable image editing style
- Adding elements from other images for flexible compositing, collage, HDR, and panoramas
- Leveraging the content of your images to help target change.

Layers are the center of the image editing process and non-destructive editing workflow. This book, like no other book, will broaden your image editing horizons by helping you leverage the power of layers in a unified approach to editing. We start by getting familiar with basic layer concepts, and move quickly into practical exercises to demonstrate the capabilities. I say "capabilities" and not "possibilities" as layers are so powerful that trying to exhaustively cover possibilities just isn't possible! The possibilities have to be left up to you and your creative exploration and exploitation of layer power.

This book is not a substitute for a good basic understanding of Photoshop's fuel: the functions and features of the rest of the program that affect changes. The primary focus of the book is layer features and functions, so some understanding of the program is assumed. However, if you have questions about what you think may not be covered here, feel free to ask the author in the online forum for the book: http://photoshopcs.com/forum.

Layers, An Extremely Brief History

Layers were remarkably well matured in their initial release with Photoshop 3 in 1994. Even so, layer functionality – then and now – includes some extraordinary powers that are still barely seen mentioned in tutorials and books. Even when they are, the features are never explored in a way that makes them valuable tools as part of a workflow. In this book we take a look at a layer-integrated workflow, and focus on layer features you will find useful every day. An attempt is made to cover all features that will affect your daily, non-destructive, image-editing workflow involving layers.

Having worked with Photoshop nearly from its inception, I consider layers as the one feature enhancement that totally changed my approach to image editing. I use layers extensively, and use them in every image, with every correction, in just about every step of the process. Despite being what I consider the most powerful tool in all of Photoshop, layers had never been the subject of a book until the first edition of this book appeared in 2007 (though there are other fallacious claims from authors who would be more honest to thank me for the idea). The absence of a book on layers was even more surprising considering that more esoteric features such as Channels and Actions have books written about them. Every Photoshop book worth the paper it's written on at least mentions layers – some have dedicated chapters to them – but no other book focuses on using layers as the core of your methodology for obtaining the best images, every time, with the least amount of work.

This book paves that new direction and continues to lead the way.

The Goal of This Book

The goal of *The Adobe Photoshop Layers Book* is to give the reader a complete approach to editing images using layers as a springboard to better corrections and to define a complete non-destructive workflow. Layers are the catalyst to organizing corrections, solidifying workflow (the holistic process of editing images) and acting as the central component to controlling every image change. Readers will learn professional correction techniques that are viable in working with any image, and they will become familiar with the power of layer features as an organizational, correction, and revision tool.

The ultimate goal is to portray layers as the heart and soul of image correction and build a foundation of good practices to help approach correction and enhancement of any image. The book focuses on the correction of photographic images rather than using layers for general graphics; the name of the program is, after all, Photoshop. Although the focus is on image correction, the exploration of layer functions and features is comprehensive within that scope.

Layers can have an immediate, profound, and long-term effect on the overall quality of your images. This book shows the nuts and bolts of what layers do, as well as how they envelop the entire process of image correction and control.

Methods

The process of discovering layers starts with the essence of learning what layers are and exploring the most important features within the context of editing. But the more essential view looks at layers as the command center that drives your organization and correction in real-life image editing situations. This is what we do in progressing through the book along with examples using images found in the downloads. Non-destructive techniques enable users to make image changes that in no way compromise original image information: layers build on top of the original source to alter it, rather than changing it directly, which could lead to losing or permanently altering valuable details.

The methods take your corrections to a professional level without hocus-pocus or steps that are impossible to comprehend and apply to your own images. You'll see what happens behind the scenes in step-by-step procedures, and, when appropriate, you'll be given the tools – customized actions created just for this book – to move through those steps quickly to set up image editing scenarios.

This book will divulge:

- a process of approaching non-destructive image corrections (a workflow) centered on layered development, using proven methods and a proven, core tool set
- high-powered editing techniques and scenarios that leverage the power of layers to enhance your ability to make any image adjustment
- realistic image editing situations with real images by using realistic expectations to get real results
- timeless techniques that span many versions of Photoshop based on good core fundamentals and essential understanding that can be used with any image and in virtually any version of Photoshop.

The book will not:

- show you fleeting techniques that emphasize the newest tools just because they are new
- examine a plethora of rarely used tools in excruciating detail just because they are there
- show you how to create effects that you may use once in a lifetime – if ever.

Who Should Read This Book

If you are serious about enhancing your Photoshop skill, this is the book you need. It applies to those who work with digital images (digitized via scanning or taken with a digital camera). The methods work on a Mac or PC computer.

Those reading this book should probably not be absolute beginners with Photoshop. A general familiarity with the program landscape and basic understanding of tools, functions and palettes is assumed – at least in as far as the features are covered in the program's Help resource. For additional information please feel free to ask questions directly on the reader forum for the book (http://photoshopcs.com/forum).

Basic general computing skills are also assumed. For example, there is nothing in this book about program installation, troubleshooting your computer, or the like. If you have trouble with basic computer skills, it is better to take a course on computer skills before attempting to use this text. On the other hand, if you can manage your computer, you should be able to manage the instructions in this book.

The Content

As you go through the book, you will discover a mixture of practical theory, examples of the types of changes you'll make in images daily, and exercises to work on to help you understand the process as well as why it works. Exercises are devised so that you see what goes on behind the scenes to help understand what you have done, not so that you just complete an exercise or press a button and ogle the result. When you understand concepts and techniques, you can apply that understanding to other images predictably – either by using tools provided to drive the processes or by manually applying learned techniques.

The book helps establish a routine so that you set clear goals for editing your images and establish a method of approaching your images consistently. The examples provided ensure that you can see the changes when they have achieved the desired result. This understanding will enable you to apply the techniques you learn to other images so that your images can be improved consistently.

Changes in this Edition

Virtually every part of this book was revised in an attempt to make the book less about a program version, and more about images, process, and layers. Changes include, but are not limited to:

- Re-vamping and revising the organization to focus on process. All boring intro content has been sent to the back of the book.

- Redefining and simplifying the focus of examples. While still gauged as part of process, examples focus on how they apply to layers.
- Re-affirming process-based learning. More hands-on examples for more interactive opportunities.
- Reference enhancement. A new appendix gathers reference information scattered through the book in one place.
- Reformation. New example images expand on the ideas in previous versions.

In all, the changes were incorporated both to enhance the feel of the book for dedicated hobbyists and to make it more inviting to beginner users.

In Photoshop, many tools and functions can be accessed by more than one method. When following along with the book's step-by-step instructions, use the suggested steps for accessing the tools. Using other methods is not necessarily bad, but may cause steps and sequences to behave unpredictably. For example, opening Levels with the keyboard shortcut (Command+L/Ctrl+L) will open the Levels dialog box but will not produce an Adjustment layer, and this can affect the outcome of a procedure that depends on the Adjustment layers being created.

You will learn several methods to act separately on image color and tone, as well as different ways to isolate color components, image objects, and areas. When you can isolate content and image areas, you can correct those areas separately from the rest of the image and exchange, move, and replace elements to make better images. You can also effect better blending between areas and make more realistic changes. Actions included with the downloads are introduced in the exercises and will reveal functional scenarios that can be used with any image and simplify the process of applying what you learn.

The chapters build from one to the next, each using some ideas from the previous chapter(s), building to chapters that follow the image process from beginning to end by using a single image. Chapters incorporate mini exercises that invite the reader to "Try It Now," using a hands-on approach to learning. All images used in these exercises are available for download so the user can work along with the exercises, and in many cases completed samples, including the layers used and developed in the steps, are also provided so that you can check your work.

Get the download files by visiting http://photoshopcs.com/layersbook2011/downloads

No book of any length can completely explore every facet of every concept, but it should give you a good idea of the possibilities. To that end, each chapter ends with a segment that considers the implications of using the techniques and concepts you've learned in that chapter. The purpose and content of each chapter are listed below.

Chapter 1: The Foundation

Good use of layers and good image editing start with good process. Outlining the process of editing leads naturally to a holistic approach in image editing with layers as the core. Building from a solid foundation with an editing outline allows readers to see how process and layers combine to yield the ultimate process. This is not run-of-the-mill introductory material; it is essential for moving forward with success in Photoshop. Basic, but not beginner.

Chapter 2: Targeting Change with Layers

The basic tenets of the first chapter are explored in this initial foray into working with layers for global image change. Looks at some corrections used in daily process in the context of a layer-based workflow.

Chapter 3: Targeting Change by Isolation and Masking

The core strength of layers comes from their ability to help isolate change. This chapter begins to look at how to isolate image areas effectively with different methods of area isolation and masking.

Chapter 4: Applying Layer Effects and Styles

With the ability to isolate image areas comes the advantage of applying layer-based effects. We will look at the canned possibilities, but expand that to practical uses, and defining flexibility by using manually created effects.

Chapter 5: Exploring Layer Modes

Layer modes are often a means of casual experimentation. On the other hand, actually knowing what modes do and which are really useful for everyday correction, can keep you from fruitless and aimless application via click-and-pray.

Chapter 6: Taking an Image through the Process

Layers become a complete process in exploring image correction from beginning to end. This chapter is the culmination of adjustment with layers, exploring the concepts of changes and process from the vantage of a single sample image.

Chapter 7: Making a Composite Image

It is not enough to look through the viewfinder and accept what is there. An advantage of digital photography, over analog and the wet darkroom, is that even the hobbyist is empowered to make bold enhancements of images. In essence there are new ways for the average photographer to shoot because of digital advantages. Here we look at a few in making HDR and panoramic images in layers.

The Web Area

One of the most important parts of this book is the web content. First and foremost, the web site contains all the images from the book so that readers can work through the corrections exactly as they are portrayed. Second, the web site has a forum where users can participate to build on the experience of the book and interact with the author. The images, and other add-on, will operate on Windows and Macintosh computers.

Find links for the forums on the web site: http://www.photoshopcs.com/layersbook2011

The images used as practice files in the book are provided so that readers can work along with the exercises. They are mostly provided as .psd files (Photoshop documents), but may be in other formats as appropriate to a particular exercise or application. These images are copyrighted and for educational purposes only; please use them only in the context of the exercises. Work with the images by opening them with Photoshop directly off the CD, and save them as you need them to your hard drive. The images are all compatible with Macintosh and Windows computers.

Mac and PC Compatibility

The actions and images on the CD are completely compatible with Mac and PC platforms, and they work in the same way within Photoshop across platforms. The greatest difference a user will note in the book is that shortcuts differ between Mac and PC. For example, to open the Levels palette on a PC, the user would press the Ctrl1L keys; on a Mac the user would press the Command1L keys (Command is sometimes known as the Apple key).

Keyboard Equivalents

Macintosh	**Windows**	**Example**
Shift	Shift	Shift+X
Option	Alt	Option+X/Alt+X
Command	Ctrl	Command+X/Ctrl+X
Control+click	Right-click	Control+click/Right-click

All keystrokes are included in their entirety in the book, first Mac, then PC, separated by a slash (/).

Contacting the Author

I have been in the practice for years of supporting my books through the Internet via my websites and forums and through email, which is not a common practice of authors – though it should be. I visit my sites and various forums online regularly. I am glad to answer reader questions and consider it an opportunity to add to explanations in the book and note areas that could use enhancement in future editions. The sites can only be as successful as people's willingness to participate.

On the site, I keep readers abreast of questions that I get asked and answered, and I post errata (or a list of any errors and typos found after publication). I have also added a forum and welcome discussion there. All this is meant to help you through any troubles you might have with the book and techniques. I provide these resources so that you can get legitimate answers direct from the source, rather than having to fish around in other forums or on other web sites where there is likely no one who knows the material better than I do. As it is much more difficult for me to find you, you'll need to seek me out. If you have questions, it is likely that other people will have those same questions, too. Please feel free to ask as the need arises. Use the forums at http://photoshopcs.com/forum.

Although you should visit the website first as a primary resource, readers can also contact me via email using the following address: richard@photoshopcs.com. Depending on volume, I respond personally to email as often as possible, and I look forward to your input.

The Foundations

For some reason, no one ever wants to be a beginner. It is as if some shame or stigma is attached to being a beginner and not inherently knowing the basics, even if they cross into totally unfamiliar ground. Enthusiastic people jump into advanced courses beyond their experience, or into the middle of a book on advanced concepts without knowing the foundations, and it leads to frustration in the learning experience. The facts are: everyone at one time or another is a beginner, and even savvy users often learn from looking at the basics.

Of course the basics can be boring and tedious, and starting with foundations can lead to a tedious first chapter. Evil authors approach you like a newborn bird promising a nice meal from the eye-dropper they've filled with yummy pureed worms. Then, when they have you begging to be fed,

The Adobe Photoshop Layers Book.
© 2012 Richard Lynch. Published by Elsevier Ltd. All rights reserved.

your mouth open wide, they squeeze the bulb on the eyedropper without mercy and in wanton abandon, dispense the content more like they were inflating a balloon from a helium tank than feeding a fragile newborn bird. Readers end up gagging on the facts before they even have learned enough to care about them. That experience may be why readers often skip to Chapter 2 and beyond. While this is Chapter 1, and may still contain the pureed worms, I've done my best to avoid eliciting the reader's gag reflex. The book has lists of facts, sure, but I've taken all the facts and sent them to a reference section in the back of the book where they belong.

Although this chapter is about foundations, it is intended for everyone – not just beginners. The foundations address basics, as well as the core ideas that affect how you work with layers. Working successfully with layers starts with concepts of image editing that come before you even look at what layers are, what they do, and how to locate the features and functions. Before we even begin to discuss layers, it will be helpful to have a context for the idea of why you even want to use them. You want to use layers to make non-destructive improvements to your images, sure. But just as important is to think of layers as a guide through your corrections. Using layers correctly will help you approach image correction holistically, keeping corrections organized and clearly defining progress through the process of corrections. To that end, we look first at the process of editing, and then how layers fit into the editing framework in this chapter.

The Essential Process

One of the most important things you can learn to do with your image correction is to set goals before you start, much like planning a trip. You need to have some idea where you are going – a general idea of direction and purpose. If you are just out for a random drive where your whims might take you, you are not out to accomplish anything, and anything you achieve is serendipitous. When you have a destination, you drive with purpose to get to where you want to go. You don't need a map of Taiwan if you are driving in Peru: the roads and destinations will be a little different when you start in a different place. You'll need a starting place and an ending place, and some general idea of what you plan to do in between – whether it is to follow the steps you got from a service, consult a map, or listen to directions on a GPS. In Photoshop, that means a general sense of the right order to tackle your corrections.

Here is the general outline I use when making corrections. Understanding it is a great place to start your exploration of layers so you have a process and map to work with:

The Image Editing Outline

1. Open the image
2. Evaluate the image
3. Make general corrections
4. Make selective correction
5. Perform heroics
6. Apply finishing enhancements
7. Save the image
8. Purpose the image.

This list assumes you have installed the program, set up color management in a way that makes sense, and calibrated your monitor … If not, you may be seeing something different than the information in the image file. For more information on setup and capture, see "Setup and Capture" in Appendix 2.

Now let's look at what these parts of the Image Editing Outline mean in the context of process and correction.

Open the image

It may seem simple and obvious that you have to open an image, but there are some not-so-obvious choices to make when opening them. Some people fuss endlessly with Camera Raw settings and stress maximizing adjustments there. The Camera Raw dialog is an opportunity, but just like any correction, you don't want to feel obligated to use an adjustment just because it is there. Better to fuss less and open the image in 16-bit and rely on Photoshop's tools than to make adjustments if you are not sure what to do.

Tip

Never feel obligated to use an adjustment anywhere in Photoshop just because the opportunity is there.

If possible, work with RAW files off your camera rather than JPEG as the former will store more image information. Once the image is open, it is no longer a file type, so you don't want to continue to think of it as a RAW or JPEG image after it is open. It becomes a file type again when you save and through the choices you make at save time (see "Save the image" later in this chapter).

Evaluate the image

Evaluating your image is comprised of looking at the image and going through the Image Evaluation Checklist and making a list of to-do's. Ultimately, any time you open an image, you want to build a list of goals for the image and then pursue those with adjustments. While you can keep a mental checklist of what needs to be done, it can help your planning to write it down, type it up, or print out a test image and make notes right on that. You can print the image on a full sheet and use the open space for jotting down all the corrections you expect to make.

About Experimenting
If you veer toward experimenting and playing with images it isn't necessarily a bad thing. In fact, it is something that you need to do to test out the boundaries of what you can accomplish with an image. Experimentation is where you will develop any new techniques. If you edit images a lot, you will almost necessarily experiment more. What I am suggesting is that you keep in mind a plan. I am also suggesting that if you feel the need to play, save the image at whatever point you have decided to begin experimenting so you can get back to your plan. If you have a goal in your experimentation, it may be good to outline a separate plan and define how much time you want to spend with it.

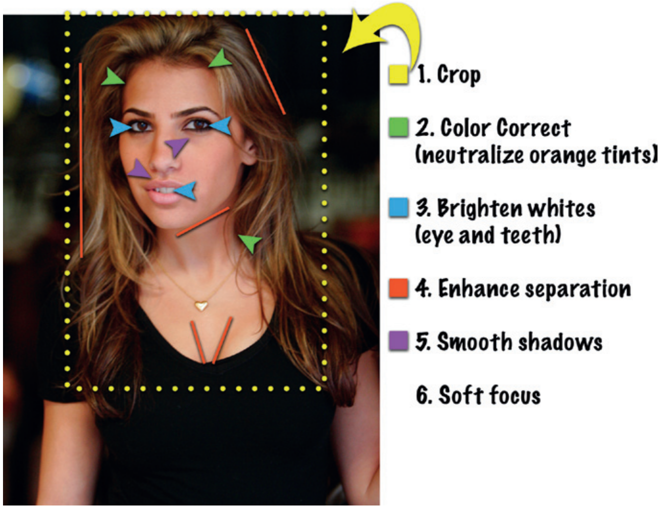

🟨 1. Crop
🟩 2. Color Correct (neutralize orange tints)
🟦 3. Brighten whites (eye and teeth)
🟧 4. Enhance separation
🟪 5. Smooth shadows
6. Soft focus

FIG 1.1 Make notations so you know what you want to accomplish with your images

The notation method does several things, perhaps most important of which is to give you a print preview of the image. While you may not want to do it all the time (and you probably don't need to except for the most involved changes), it is good to keep in mind as an option and as a planning tool.

What you make for notations will vary depending on your experience and what you are correcting. For example, you may be working on a head shot or glamor photo, and the notations you make will reflect that type of image. In either of these you might note to make corrections for wrinkles, for example, and there may be few compositional changes (if any). In a landscape image, you may focus on only compositional changes, while neglecting wrinkles. But the overview of corrections will be something like this:

Image Evaluation Checklist

- Alignment/Crop/Horizon Check
- General Color/Tone Correction
- Damage/Dust/Debris/Detritus
- Composition Changes/Imaging Heroics
- Image Enhancements.

Crop/Horizon Check

The basic cropping of an image should take a look at removal of "peripheral junk" that may be distracting and detract from the image, framing, and the horizon (Figures 1.1, 1.2, 1.3). These are not hard definitions, but they do provide some useful ideas as to what you may need to do to improve an image.

Peripheral junk is anything at the edge of the frame that you can easily remove by changing the cropping of the image. These are usually minor cropping changes which hopefully improve your image and composition.

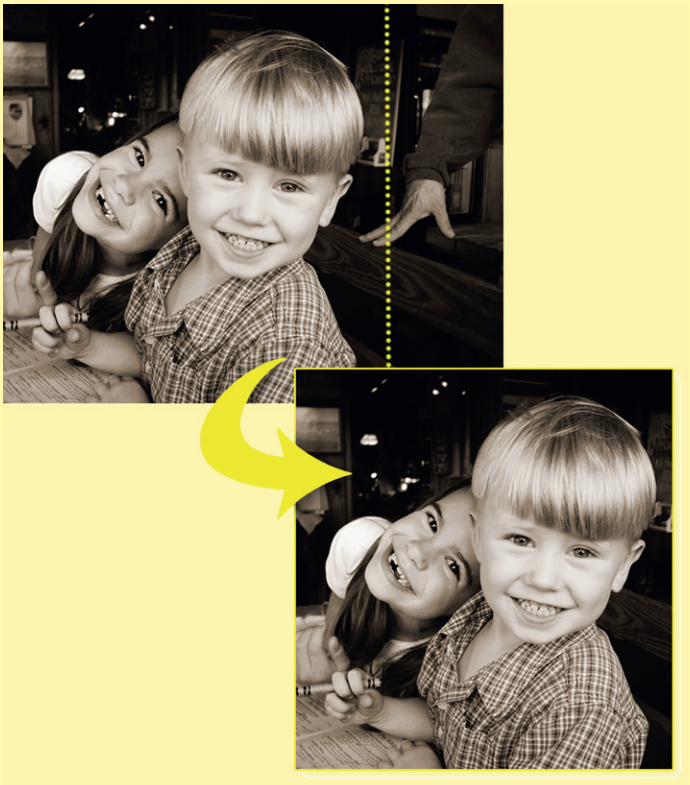


FIG 1.2–1.3 Before Crop: The hand at the right is distracting, and cropping it out brings focus to the subjects, as well as invoking the rule-of-thirds
After Crop: The child's face fills the photo without distractions

Framing changes are a more radical cropping that changes the perspective of the image. For example, you may change an image that was shot in landscape orientation to a portrait orientation by cropping a significant area of the image. Before cropping anything permanently, be sure you are considering how the image might be used in the future and the possibilities for different aspect ratios.

Horizon changes are accomplished by cropping an image to improve the vertical and horizontal perspectives. Usually these are thought of as the horizon of ocean, where you can easily detect that the world is a little off kilter; but they can be applied either way. For example, if you have an image of a tower and it seems to be tilted a bit to the side, you can use cropping to straighten how it appears in the image (see Figures 1.4 and 1.5).

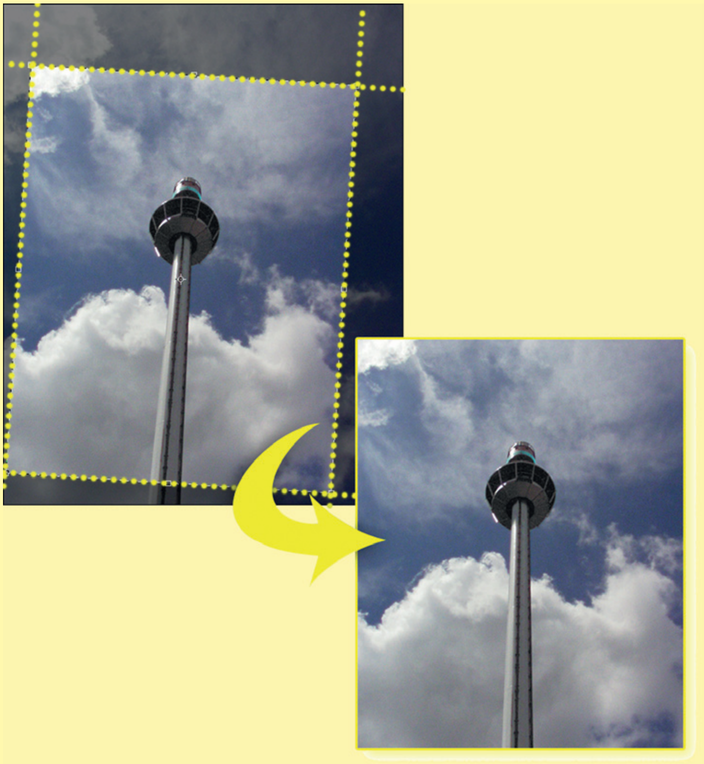


FIG 1.4–1.5 **Before cropping the vertical is off**
After cropping straightens the perspective

General Color/Tone Correction

The need for color correction can be apparent in an image in different ways, from visual inspection of the whole seeming a little off or flat, to specific components of an image seeming to be "wrong," like skin tone, sky color, or other familiar aspects of a scene. Images can also be made to look better with smaller correction of color shifts and color balance (Figures 1.6 and 1.7).

Often a good general color correction will fix all of the color problems in an image. What I mean by "general" is that you will not use selection to focus

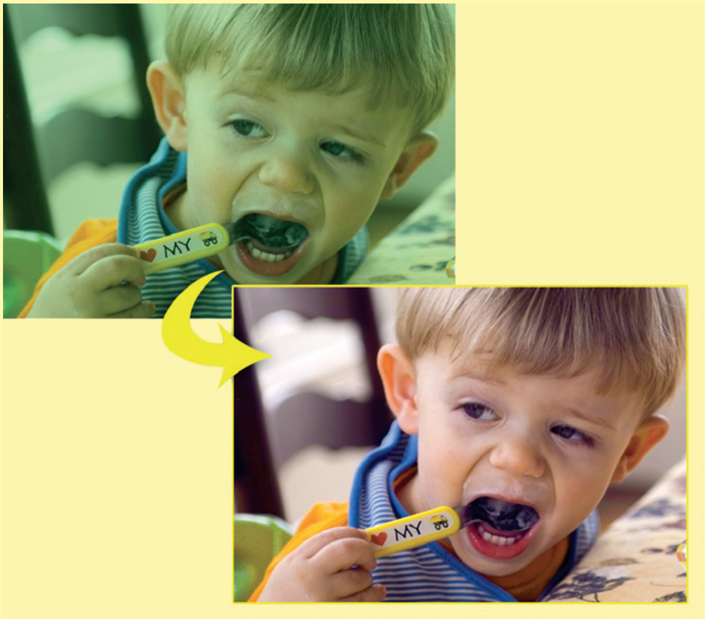


FIG 1.6–1.7 Before correction and balance
After correction and balance

change on a specific area of the image. Many times, color changes should be global rather than selective, even when it seems to you that there is only one color or area that really needs change. Selective change should be the rare case.

Fix Damage/Eliminate Dust/Debris

Film images can have nuisance problems, like dust, or in the case of scans there can be tears or other defects in the photographic original that get carried to the scan. These problems are something I consider differently than problems with the image itself, and I like to fix them at a different stage in correction. It is not a choice to correct these problems; they reflect bad parts of the image that simply have to go.

However, digital images experience this same type of effect on a different plane. Bird doo, litter, random objects, unexpected intrusions … all of this and more should be treated like damage and dust and removed from an image.

Composition Changes/Imaging Heroics

Heroics are what I consider as the things you do to an image to either combine it with other images, force repairs that would normally be ill-advised, devise heavily creative solutions to fixing images (such as replacing backgrounds), or flat out create artwork. You might include experimentation here: applying of artistic filters, adding type, creating collages, stylizing for a series, etc. In other words, we are looking at far more than making a simple compositional change.

This is an area of correction that can take huge amounts of production time, and you should ask yourself if the changes are warranted, and necessary, before listing them. Use a detailed description of what you are going to attempt, as that will help you determine the difficulty and likelihood of success.

Image Enhancements

Image enhancements are usually simpler techniques of enhancement that you consider doing to any image. Such things that fall into this category are adding soft focus, framing, adjusting brightness, affecting contrasts (local and global), and sharpening. Enhancements affect the image globally and are employed after all other basic corrections have been completed.

This outline/overview may have seemed like a review of the process of image editing, and that's because it is. It is meant to give you a solid core for evaluating images that you can follow every time. This is a process you will frame with good practices in color management: calibrating your monitor, creating an ICC profile, and defining a color management choice.

Whatever method you choose for evaluation, and until you are confident that you are hitting all the aspects of what you are going to correct in every image, I suggest using the checklist provided. This is a process of evaluation that you will develop and personalize over time, but can be defined roughly by the outline. It is less important to know exactly how you are going to fix something while creating your list of to-do's than it is to be able to identify the issues. Both will take practice. Working at identifying issues will actually help improve your photography.

Editing and Correction

Once you have the checklist outlining what you want to do, you have to set about doing it. There is a preferable order to that as well. Overall the order of the correction will follow the general order of the Image Evaluation Checklist, but the focus is a little different. Whereas the order of the evaluation doesn't matter, the order of application will. You want to focus on global changes first, and then make specific and selective corrections, and finally global enhancements that affect the feel of the final image.

Correction Order

A. General Corrections	General tone and color correction is a great place to start, as you can make adjustments that may fix several problems at once and help forgo selective correction. Horizon adjustments, distortion correction, overall brightness, and contrast are all initial considerations.
B. Selective Corrections	Selective adjustment is not just all about using selection tools to make marquees. A major portion of what you will do in layers is selective adjustment, but most of it does not use selection. It may involve masking, blending options, opacity and transparency, tone and color ranges, and freehand tool adjustments (e.g., Cloning, Healing, Patching, burning/dodging).
C. Composition Changes/Imaging Heroics	The third stage of correction is composition change, imaging heroics that define more ambitious efforts to change an image. Unlike simple selective corrections, these corrections may involve additional images, borrowed content, merging content, and compositing.
D. Image Enhancements	As a final step in working on images, you may want to add enhancements. Enhancements are stylized general photographic effects that apply to the entire image, like soft-focus, framing, conversion to black-and-white, toning/duotoning, and sharpening.

Save the image

With the image adjusted, you need to define a sensible means of image management, including saving to a file type, managing multiple image versions, and simplifying workflow, while making maintenance as painless as possible. Used correctly, layers can help you significantly reduce file clutter (where you have multiple files essentially representing the same image). Some basic principles of good file handling will help you simplify, organize, and retain the integrity of file content.

Suggestions for Saving Routines

- Have only one working file for every image to avoid confusion with multiple files.
- Save multiple versions of any image in your single working file as layers, layer groups, or layer comps, so all the versions for any image are in one place.
- Save images as PSD files to retain all your changes and versions. JPEG is NOT a good option for storage and archive.

- Maintain a system for saving and organizing images considering storage location(s), keywords, and image management software options, so that images do not get misplaced and are easy to find.
- Back up all important images as soon as possible to avoid losing work to drive failure and other circumstances beyond your control.

Any permanent changes to the look and layer structure should be added to this PSD and saved with it. You can save versions as Groups or Layer Comps.

Purpose the Image

Purposing images for use means taking your working file and optimizing it for a specific purpose and use. Generally this would be converting the image to a specific file type or color mode to fulfill a request. This includes creating a CMYK file for use in production printing, or creating a JPEG or PNG file for use on the web.

My suggested organization of using a single PSD file revolves around the idea that any purposed file is a temporary extension of the working file. You can't just make a copy of a PSD and post it to a web page in most instances and have that be a successful implementation of the image. Open the working version of the image and save a copy when you use it. In this way you will always consult your most recent version of the image when you go to use it. You would follow this simple process:

Steps for Purposing

1. Open the PSD version of the file.
2. Make temporary modifications to the file as necessary. This may include changing color mode, converting to other color spaces, simplifying the layers and vector content, and simplifying channels. Adjustments should be made in consideration of the final use and file type only.
3. Save a temporary version of the file by a similar name. Adding something to the file name to indicate the use is suggested as well as dating (e.g., Myimage-SkyMag-6.6.12.pdf – which indicates the image name, designates the use for Sky magazine, dates the image for June of 2012, and indicates that it is a PDF).
4. Close the original without saving.
5. Allocate the temporary file to the purpose. (For example, you may need to send it via email, FTP, copy through a network, burn to a disk, or copy to other media for transport).
6. Delete the temporary version of the file.

This process leaves you with the unchanged working PSD, and no additional files to cause clutter and confusion. The section "Concepts of the Layer Based Workflow" will explain in more depth how versioning can be handled.

Keep the Process in Mind

If you never thought of image editing as a process, this outline should serve as a pretty complete framework. If you have been working with Photoshop for some time, you may have already established some practices that may be a bit different than what I have described, but you should be able to see how the ideas here co-mingle with your practice. I am including the lists for the parts of the image editing outline in Appendix 1 to serve as a quick reference. This includes:

- The Image Editing Outline
- Image Evaluation List
- Editing and Correction Order
- Suggestions for Saving Routines
- Steps for Purposing.

Refer to the lists as a quick reminder or when you have "lost your way".

Concepts of a Layer-Based Work Flow

Now that you have a basic outline for editing your images, we can apply layers to that framework. Concepts start with knowing something about what layers are, so application makes sense within the context of editing.

Talking about managing layers before talking about using them is really a chicken and egg scenario: is it more important to know what to do with them or know how to manage them? My thought is simply this: start with good fundamental practice in using layers, and it will be more natural to use them in a way that is most beneficial to your images.

But before worrying about what to do with them, let's take a look at what they are.

What Is a Layer?

Images are considered to be two dimensional. That is, when images get printed on a piece of paper or displayed on a screen, they have a height and width only. Although there may be an appearance of depth, there is no actual depth. The images are flat, and they lack that third dimension.

Whenever you view an image fresh from a digital camera, the image is flat and two dimensional on your screen. This is true even though the color image is actually stored as separate red, green, and blue (RGB) grayscale components in the file (see Figure 1.8). The components of your RGB image are combined by the computer when the image is displayed, and the result is a two-dimensional color image rendered on your computer screen in full color. That is, several components (in this case the red, green, and blue light components) are combined to produce the color result.

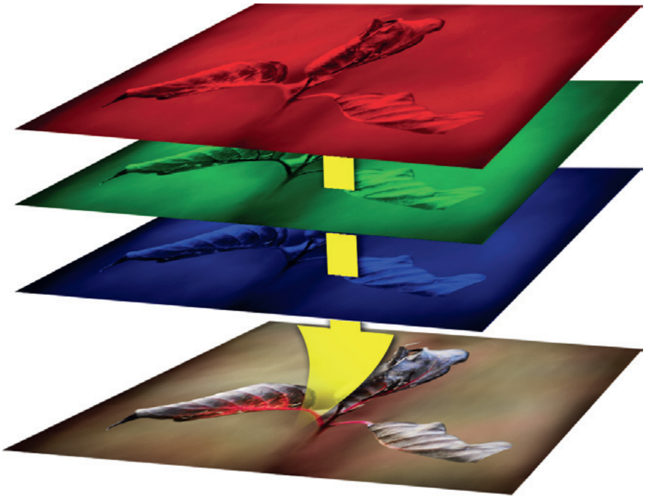
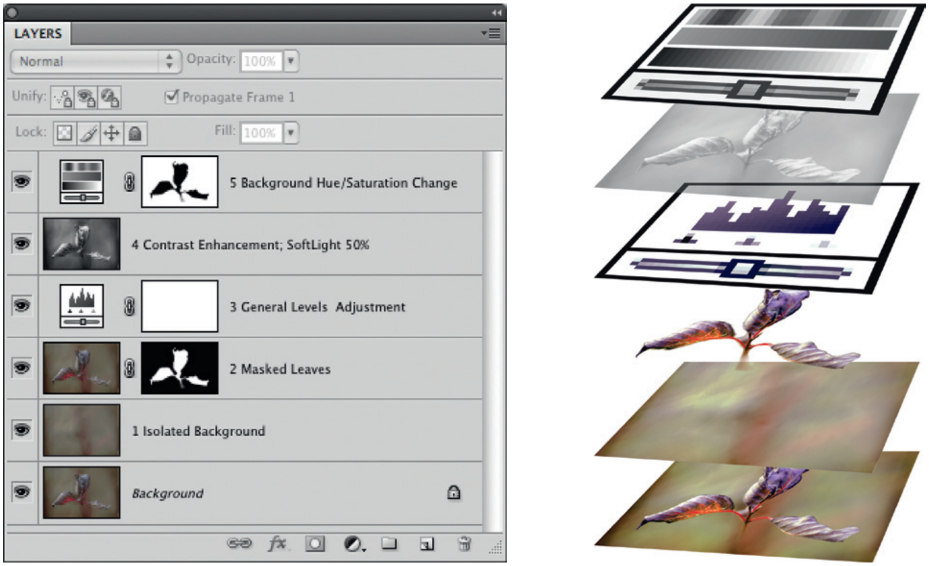


FIG 1.8 Red, Green, and Blue grayscale components combine to display color in your images



LAYERS

Normal

Opacity: 100%

Unify:

☑ Propagate Frame 1

Lock:

Fill: 100%

5 Background Hue/Saturation Change

4 Contrast Enhancement; SoftLight 50%

3 General Levels Adjustment

2 Masked Leaves

1 Isolated Background

Background

FIG 1.9 Image layers combine when viewed as the image to display a full color result while retaining separation of the layer contents

In a similar way, multiple layers can combine and still result in a two-dimensional image. Layers act as additions to your image that overlay one another as you add them to the layer stack (see Figure 1.9). These additions are full color as opposed to the grayscale RGB components. When an image with layers is displayed in Photoshop (or Elements and other programs that can recognize images stored with layers) the result is still a two-dimensional image made from a composite of the layers. Each individual layer stores complete RGB color that combines in two dimensions, as if you were looking down through the layers from the top of the layer stack.

Layers act like a stack of content that makes up a single image. Layers build on original content while keeping the layers separate. Imagine painting a house, and doing a second coat, and then deciding – for whatever reason – that the second coat was bad. You'd never be able to take it off without destroying everything you've done. Layer additions make it possible to add changes so additions can be managed separately, without physically changing and permanently merging with the content below.

The ability to keep changes separate is known as "non-destructive" editing: pixels from the original layers are altered virtually, rather than permanently. This ability to make additions to the image in layers keeps changes and alterations more fluid and movable, allowing you to finesse and sculpt the image result without "destroying" original image information.

Let's take a quick look at what this means in Photoshop by making a change to an image and experimenting a little with the advantages offered by layers first hand in the following *Try It Now!* Exercise.

About Try It Now! Exercises

Try It Now! exercises attempt to use a hands-on approach to learning. While it won't always be feasible to drop everything and try it now, it is important to make the effort to understand the concepts and get a feel for the software and layer application.

During *Try It Now!* exercises, refrain from exploring palettes and images and taking detours from the steps as you are working through the exercise – at least the first time through. I know it is easy to get distracted by shiny things. Clicking here or there during the steps may easily cause the step-by-step procedures to fail if you don't know what you are doing or how to return to the exact state of the image before your distraction/exploration. Explore after you've achieved success with the exercise the first time. If it doesn't work the first time, give it a second try *from the beginning*!

Try It Now: Experiencing Layers

1. Open Photoshop and be sure the Layers palette is in view on screen. If the Layers palette is not in view, choose Layers from the Window menu (Window > Layers).
2. You could use any flattened image for this exercise, but use Sample_1.1.psd from the download area (see Figure 1.10). You will see a thumbnail, or smaller view, of Sample_1.1.psd in the Layers palette when the image appears on screen.

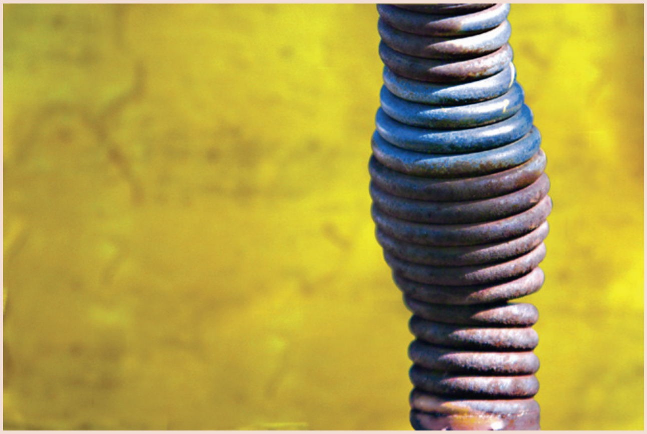
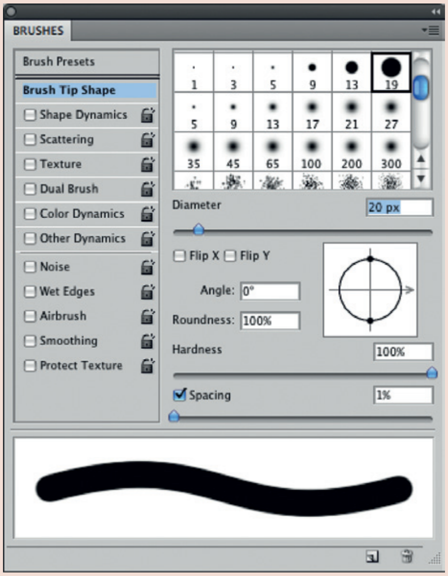


FIG 1.10 Sample_1.1.psd is all you need to work through this short example. Any image would work. This just provides space for the later steps

3. Choose the Paint Brush tool. To do this, click the Paint Brush icon on the Tool palette, or press B on your keyboard. If you press B and the tool does not appear, hold shift and press B to scroll through the brush tools.
4. Set your Brush options (in the Options bar and Brush listing) to a 100% hard brush, 20 pixels in diameter. The Brushes panel can be reached by choosing Window > Brushes from the program menus. Be sure the Flow and Opacity are 100% and the Mode for the brush is Normal (see Figure 1.11).
5. Create a new layer in the image. To do this choose Layer > New > Layer from the Layers menu at the top of the Photoshop program screen. The New Layer dialog will appear. Change the Name from Layer 1 to MyName, then click OK, leaving the rest of the defaults in the dialog as is. A new layer will appear in the Layers palette, named MyName, and the MyName layer will be highlighted/active. The image will not change, but you will use this layer to add a change to the image in the steps that follow.
6. Use the brush to write your name quickly, right across the image. To apply the tool, click-and drag the brush right on the image, releasing the mouse button when you are done with the stroke (see Figure 1.12). Your attempt at writing your name will come out on the MyName layer in the Layers palette.
7. Choose the Move tool by pressing V on your keyboard. Check the Options bar and be sure the Auto-Select box is not checked.
8. Click and drag on the content you added and drag it to another part of the image. What should happen is that your name should move around the image without affecting the position of the original


BRUSHES
Brush Presets
Brush Tip Shape
Shape Dynamics
Scattering
Texture
Dual Brush
Color Dynamics
Other Dynamics
Noise
Wet Edges
Airbrush
Smoothing
Protect Texture
1 3 5 9 13 19
5 9 13 17 21 27
35 45 65 100 200 300

Diameter 20 px

☐ Flip X ☐ Flip Y

Angle: 0°

Roundness: 100%

Hardness 100%

☑ Spacing 1%

FIG 1.11 Your Brush options should look similar to this

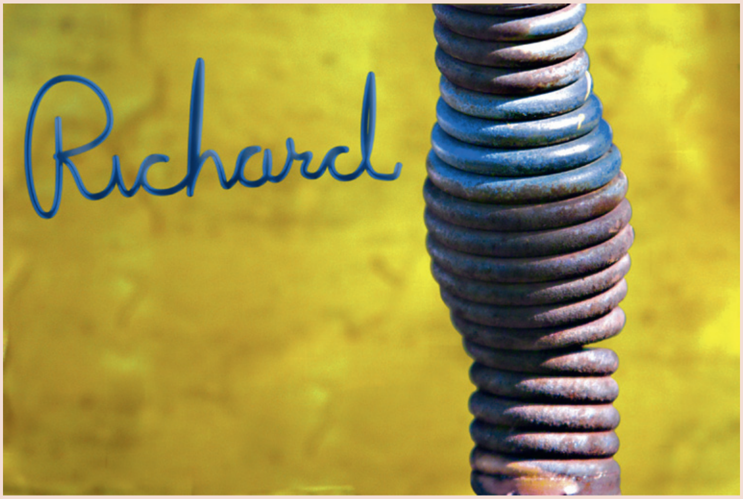


FIG 1.12 The goal of this step is NOT to make the name perfect, so don't get hung up at this point in using the tools. The goal is just to add some content and see, first hand, how the layers work

background. You can move the signature wherever you want. Though we won't go this far right now, you could distort, rotate, and resize the signature without directly affecting the image below, as it remains as content in its own layer. If you shut off the view for the MyName layer (click the eye icon to the left of the layer in the Layers palette), you see the original image with no change. This simple idea is the core of non-destructive editing: image changes remain isolated from the original content.

9. Flatten the image by choosing Flatten Image from the program Layer menu (Layer > Flatten Image). This will merge the MyName layer with the Background. Merging just combines the content of different layers. We will look at that in more depth at merging and flattening later in this chapter.
10. Choose the Move tool by pressing V on your keyboard. The Option settings for the tool should be the same as before.
11. Click and drag on the image to move the content you added back to its original position (approximately).

What you'll find in the final step is that you can't move the signature. This is a layer property of the Background – it is locked in position and will not move. You have to double-click the layer in the Layers palette (right on the thumbnail), and that will convert the Background to a layer (accept the defaults in the New Layer dialog that appears by clicking OK). Once you do that and try to drag the signature again, you'll drag the whole image. If you try to shut off the view you shut off the whole image. There is no easy way to extract the content of a layer once it has been merged with other content or flattened.

In essence, that is Layers in a nutshell: layers provide separation between corrections and changes and the result when you work on an image. This ends up being a huge advantage in editing your images. The basic functionality of layers allows you to keep image content and changes separate, but the separation also allows you the advantage of controlling how image areas combine, and the ability to adjust that any time. Layer properties such as Mode, Opacity, Masking, Clipping, and Visibility give the user flexibility in incorporating layer content so that adjustments can be moderated or even be part of active calculations that change the image dynamically. The control you gain using layers gives you advantages that allow you to achieve results that would otherwise be impossible or extremely difficult in an image without layer capabilities.

The Logic of Layers

The logic of layers is decidedly a concern of people who reach sophistication in image editing. If you do minor edits to an image, it is possible that you might get away with not using layers. If minor edits are all you do – or ever plan to do in the future – there is no need to understand layer logic. In fact, it could be argued that there would be no reason to have Photoshop at all, as a less-expensive software package would satisfy your needs. Those who buy

Photoshop with the intent of only ever doing minor editing will never get the most out of the product they purchased. They have bought a Ferrari to back down the driveway and collect the mail. On the other hand, sophisticated users who want to control their images and results need to learn the logic of layers.

Used optimally, layers end up being not only a means of correction and an organizational tool for those corrections, but a means of driving corrections, organizing the correction workflow, and acting as a history of image correction. Effectively managing layers and layer content will help keep your corrections on track, will allow you the flexibility to step back and forward in corrections, will help you learn from what you do, and will also keep your images from bulking up to a ridiculous size.

The greatest benefit from using layers is that you get tremendous flexibility in viewing image changes, the ability to revisit and adjust changes at any time later in the correction process, and the ability to organize your approach to making and storing changes. An organized approach helps you address all the potential problems, and helps you learn from your adjustments: you can see what you did, and create techniques by examining your process.

The biggest drawback to layers – besides learning to harness the tremendous number of options – is bulking image file size, and organizing an ever-lengthening layer stack. The more layers you use, the larger your files will get and the harder it will become to determine which layer contributed to a particular change.

There are ways to maximize the benefits and minimize the drawbacks with good practices and an outline of layer logic.

The Logic of Layers

- Create a Layer for Every Change
- Focus Application of Change by Controlling Active Layers
- Selectively Hide and Reveal layer Content
  - Layer Visibility
  - Layer Masking
  - Layer Modes
  - Layer Opacity
  - Layer Blending
- Organize Layers to Keep Your Sanity Claus
  - Layer Naming
  - Group Layers
  - Move Layers to Arrange Content Hierarchy
  - Linked Layers
- Merge Layers for Image Efficiency
- Use Smart Objects for Productivity and Consistency
- Use Layer Comps for Preview.

Managing layers starts with creating them and understanding the general properties. Organization within the image can have to do with simple things like naming layers or ordering layers in the stack, but layer groups can gather changes made for a particular purpose or image versions, simplifying your layer stack. Simplifying may also give rise and reason to merging or deleting layers instead of retaining them as unnecessary bulk. Smart Objects can give you an edge on productivity for special projects, but they can apply to simple applications as well. Layer Comps are a separate means altogether of controlling your layer views.

The rest of the chapter is dedicated to a brief exploration of the outline of layer logic. A more in-depth study follows with the content of the rest of the book.

Create a Layer for Every Change

Ideally you should create a new layer for every change that you can identify. That is, if you are going to make a general color adjustment, make a new layer; if you are going to sharpen, make a new layer; if you are going to make a spot change to any image area, make a new layer. Working with layers as a primary tool allows you to reverse any change: it is a far more powerful tool than Undo because you can change the editing sequence. With layers you can make six changes and then reverse change #2 without first undoing all the other changes first.

There are many ways to create new layers in Photoshop, and the methods serve different purposes of duplication and creating new content. The *Try it Now!* exercise below describes how to go about creating layers in a variety of ways. The goal at this point is not so much to make definitive changes to an image, as it is to just play with layer creation and get comfortable with the methods and the idea of layers.

Try It Now: Duplicate and Create Layers

1. Open an image in Photoshop. This could be one of your own or Sample_1.2.psd from the file downloads. See Figure 1.13.
2. Duplicate the Background layer. Drag the Background layer thumbnail in the Layers palette to the Create a New Layer button. This will create Background Copy just above the Background layer with the same content as the Background layer. Duplicating creates a new layer with the same content.
3. Duplicate a layer. Choose the Duplicate Layer command from the Layers palette menu. This will open the Duplicate Layer dialog. Define the name of the duplicate layer in the dialog to My Duplicate Background

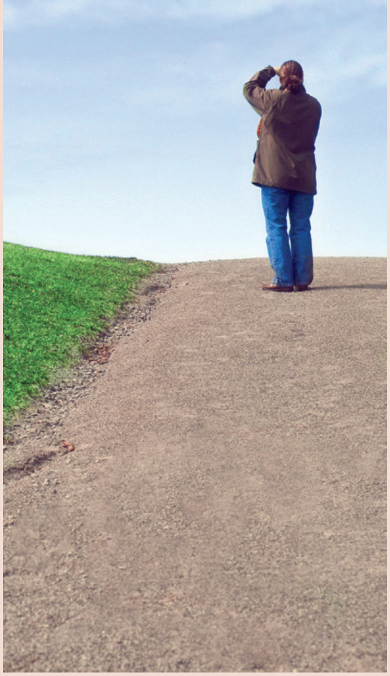
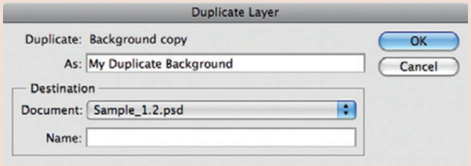


FIG 1.13 While this exercise will work with any image, the example image is available in the download files for the book



Duplicate: Background copy

As: My Duplicate Background

Document: Sample_1.2.psd

Name:

FIG 1.14 The new layer name can be changed in the Duplicate Layer dialog

by typing in the name in the As field, as shown in Figure 1.14. Then click OK in the dialog to accept the changes and create the layer. This creates a new layer called My Duplicate Background at the top of the layer stack. Your layer stack should look like the content of Figure 1.15.

4. Duplicate a layer. Choose New Layer Via Copy or press Command/Ctrl + J Mac/PC. This will create a new layer above the My Duplicate Background layer named My Duplicate Background Copy.
5. Duplicate a layer.
   A. Click on the Background layer in the Layers palette (the layer at the bottom of the stack) to make it the active layer.
   B. Choose the Duplicate Layer command from the program's Layers menu (Layer > Duplicate Layer). This will open the Duplicate Layer dialog.
   C. Choose New from the Document drop list. This will gray out the As field and activate the Name field below the Document drop list in the dialog.

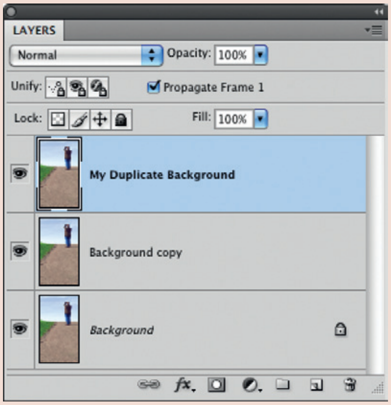


FIG 1.15 After the second duplicate, you will have three copies of the Background layer with distinct names

Normal
Opacity: 100%
☑ Propagate Frame 1
Fill: 100%

My Duplicate Background
Background copy
Background

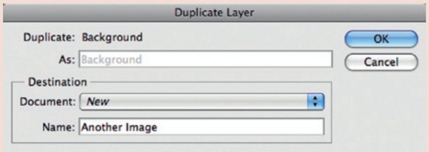


FIG 1.16 The setup for the Duplicate Image dialog

Duplicate: Background
As: Background
Document: *New*
Name: Another Image

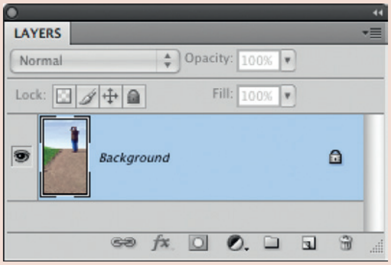


FIG 1.17 Duplicating the Background to a new image yields a new image with only the background layer. Both documents will be available in Photoshop

Normal
Opacity: 100%
Fill: 100%

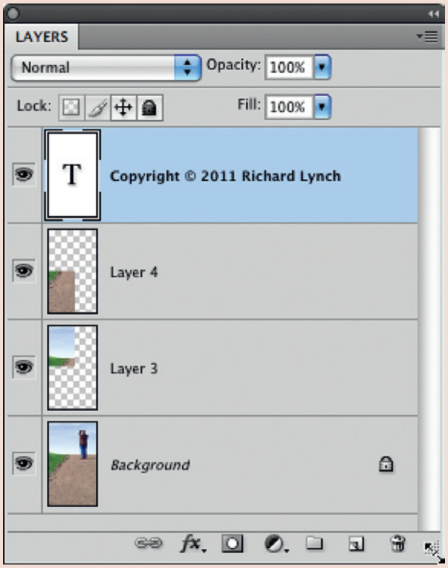
Background

D. Change the Name to *Another Image* (as shown in Figure 1.16), and click OK to accept the changes. This will create a new image with the name Another Image. The new image will have only one layer (Background) and will be in the original content. Your layers will look like Figure 1.17.

6. Create a new layer. With the new image active, click the Create a New Layer button on the bottom of the Layers palette (you can refer to the Layers palette diagram in the reference section, or just roll your mouse over the buttons to read the tool tips). This will create a new blank layer called Layer 1 in the image. Creating a new layer makes a layer without any content.
7. Create a new layer. Choose the New Layer command from the program's Layer menu (Layer > New > Layer). Though it is the same command, this will open the New Layer dialog – the only difference

from the previous step being where you initiated the command. Click OK to create Layer 2 above Layer 1 in the layer stack.

8. Create a new layer from a copied image area. Click on the thumbnail for the Background layer in the Layers palette. Create a selection of part of the left half of the image with the Marquee tool (press M to get the tool). Copy (Command/Ctrl + C) and Paste (Command/Ctrl + V). This will create Layer 3 with the content of your selection just above the Background layer in the layer stack. The image will still look the same.
9. Create a new layer from a cut image area. Make a new selection with the Marquee tool that covers only the lower half of the image. Be sure Layer 3 is active by clicking directly on the thumbnail for that layer in the Layers palette. Choose New Layer Via Cut from the program's Layer, or press Command/Ctrl + J. The content of Layer 3 that fell within the selection will be copied to a new layer, Layer 4.
10. Create a new Type layer. Choose the Type tool (press T), and click on the image to create a new layer. Type in a copyright notice (e.g., Copyright © 2011 Richard Lynch). The layer will be created above Layer 4, and it will rename itself automatically to the content that you type.
11. Delete a layer. Click on the Layer 1 thumbnail and drag it to the trash icon on the bottom of the Layers palette. This will delete Layer 1.
12. Delete a layer. Click once directly on the Layer 2 thumbnail to activate that layer (you can tell the layer is active as it will highlight), and then click the Trash icon on the Layers palette. Note that a dialog opens asking you to confirm the deletion. Click OK, and the layer will be discarded from the image. Your layers should look like Figure 1.18.



Opacity: 100%
Fill: 100%
Copyright © 2011 Richard Lynch
Layer 4
Layer 3
Background

FIG 1.18 After creating and duplicating and deleting in these steps, you should be left with just a few layers in the current image

Of course the reasons to create duplicate content and new blank layers would normally be to add and adjust content, such as we did when adding the copyright layer. Here the layers are mostly just practice, but also provide some useful examples for the following concepts of layer logic. So hold on to those images you've been working on for the moment … we have a few things to explore.

Focus Application of Change by Controlling Active Layers

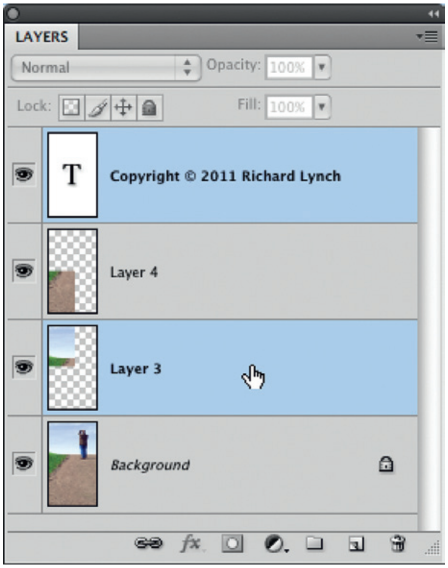
One thing that confounds most people who are new to Layers is trying to understand where the changes they make are going. Mostly the initial impression will be that the program is smart enough to add everything to the top of the image, or that it somehow just knows where things are supposed to go. Regretfully, layers don't always get created at the top of the layer stack, the program does not read your mind, and you are responsible for directing the action. Sometimes you will want content that you are adding to go on the top of the layer stack, but other times you may want to affect specific content on a specific layer.

The last step in the previous exercise is a fine example of this. You clicked on Layer 2 to activate it – to be sure it was going to be the target of the next action you took – and then you clicked the Trash button on the Layers palette. The program knew you wanted to trash the active layer. If you had activated Layer 4 instead, and clicked on the Trash button – no matter how hard you thought about deleting Layer 2 – Layer 4 would vanish. You cannot control an action with telepathy. Action is taken on the active layer(s).

At times you will want to make more than one layer active. Clicking on one layer will only activate one layer. However, you can select consecutive layers as a group by clicking on the bottom layer of the series you want to select to activate it, and then hold down the Shift key and click on the upper-most layer in the series you want to activate. The series will highlight from top to bottom.

To select non-sequential layers, hold down the Command/Ctrl key Mac/PC and click on a layer (see Figure 1.19). Clicking a layer that is not active will activate it. Clicking on a layer that is active will deactivate it.

Highlighting multiple layers is usually done for organizational purposes such as moving layers in the stack or creating a group. You cannot apply an adjustment to multiple layers at one time by activating them. An image with no active layers will behave in a similar way: when you try to do something the program cannot determine where the action should be applied, so nothing will happen. Be conscious of what layers are active, especially when something seems to be going wrong.

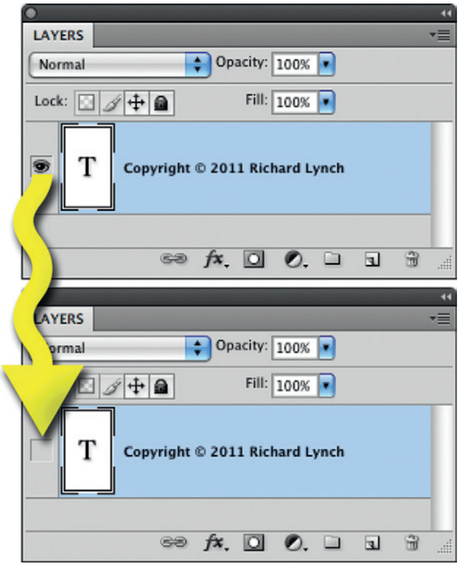


Normal

Opacity: 100%

Fill: 100%

FIG 1.19 An example of activating/highlighting non-sequential layers



Normal

Opacity: 100%

Fill: 100%

LAYERS
Lock:
Copyright © 2011 Richard Lynch
AYERS
ormal
Copyright © 2011 Richard Lynch

FIG 1.20 A layer with the visibility icon on (a) and off (b)

Selectively Hide and Reveal Layer Content

Layers can be applied as they are; they can be hidden, partially revealed, or applied in calculations. The content of the layer itself will not change in these situations but it can be applied differently in the image. Layer Visibility, Layer Opacity, Layer Modes, Layer Blending, and Layer Masking can be used in tandem to achieve control of how specific layer content affects your image.

Layer Visibility

A layer anywhere in the image can be totally turned on or off. This is accomplished using the layer visibility toggle. This is a small icon to the left of each layer (see Figure 1.20). When the icon is not present (visibility off), the layer remains in the image, but does not affect the visible result. When the icon is present (visibility on), the layer affects the content of the image. Visibility is either on or off. In that way it is a light switch that controls all aspects of a layer's properties, overriding opacity, mode, masking, and blending.

To see the effect, go to the image from the exercise you were working on, and toggle the view for the Background layer to off. If everything went correctly, the content represented by the layer should disappear from the image, yet remain in the layers. In areas where there is no active content, you will see a gray and white checkerboard pattern that indicates transparency.

Before going on, toggle the view for the layers back on.

Layer Opacity

Content in individual layers can be applied in a percentage, rather than just turning the content on or off. The control for this is layer opacity. To control the opacity of a layer, make the layer active and adjust the Opacity control on the Layers palette by typing a number into the field, or using the slider. The opacity number reflects a percentage from zero to 100%.

To see the effect in the image, activate the type layer that you added, and then change the opacity to 50%. This will reduce the visibility of the type by 50%, allowing the content of the content lower in the stack to show through. If you now toggle the view for the Background layer, the type will appear as 50% opaque over the transparent portion of the image. Opacity can be used in concert with other layer properties like modes, blending, and masking. Figure 1.21 shows reducing the Background opacity to 50%.

Note that opacity can also be controlled with the Fill option just below the Opacity. This is not a redundant feature. Fill affects the opacity of content in the layer, but not the layer styles applied to the layer. These can be used in tandem, and we will look more specifically at uses for Fill in Chapter 4 "Applying Layer Effects and Styles". Understanding the idea of Opacity at this point is all that is necessary.

Layer Modes

There will be times when you want the content of a layer to interact with the other content below it in the layer stack. To a limited extent, visibility and opacity can affect layer interaction, but layer modes add to that by introducing calculations. The idea is that layer content actually interacts with the content of other layers to produce a result like a calculation. A simple demonstration can be devised from the sample image we were working on.

Activate Layer 4 in the sample image from the exercise, and change the mode of the layer to Multiply. The modes are accessed at the top of the Layers palette; just click on the word Normal, and select Multiply from the list that appears. If the exercise was done correctly the mode will be applied to Layer 4, and the lower left quadrant of the image will darken (see Figure 1.22). Note that you can control the intensity of the effect by adjusting the Opacity of Layer 4.

Modes have very many practical and powerful uses. Again it is more important to understand the difference between mode and opacity at this point than to grasp all of what modes can do in their entirety. These calculations can become quite complicated, and are, in fact, the subject of their own chapter, "Exploring Layer Modes" (Chapter 5).

Before going on, restore the opacity of Layer 4 to Normal (Normal is the default).

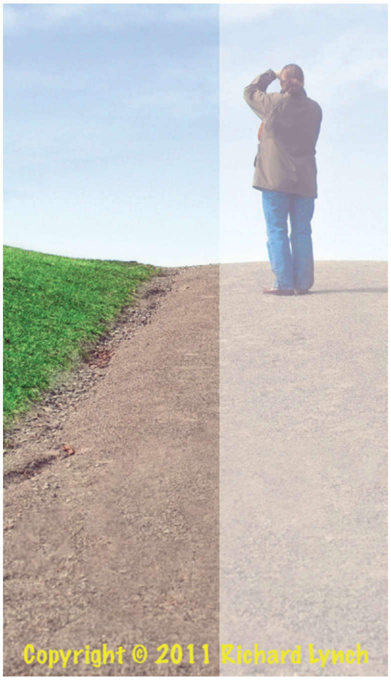


FIG 1.21 Reducing the Background layer to 50% will leave partial transparency, represented by a checkerboard effect. To reduce the background to 50%, you have to convert it to a layer by double-clicking

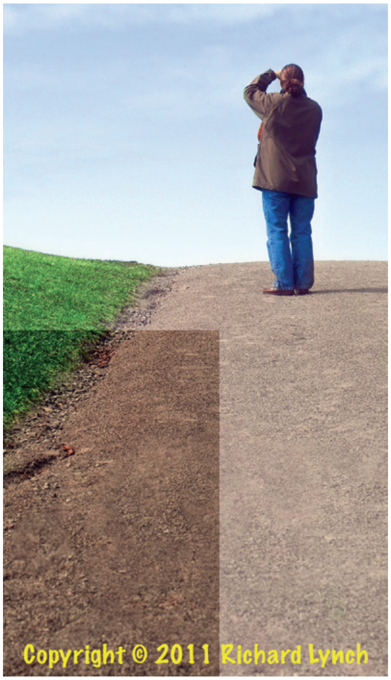


FIG 1.22 Setting Layer 4 from the exercise to Multiply mode darkens the content of the layers below based on the content of the layer

Layer Masking

Masking in the traditional darkroom was a method of controlling exposure in the darkroom. In layers, masking helps you block and reveal specific areas of content in the layer. Where a mode or opacity will affect the entire content of a layer, masking allows selectivity. To see what masking can do, it is best to look at an example.

In the example image, click on the Background layer to activate it. Press Command + I/Ctrl + I (Mac/PC) to invert the content of the Background (see Figure 1.23). The left of the image will remain as it was because the content of Layers 3 and 4 was not inverted. The right will appear as a negative. Now create a mask for Layer 3. To do that, click on Layer 3 in the Layers palette to activate it, and then click the Create Layer Mask button at the bottom of the Layers palette. Clicking the button will add a mask thumbnail to the right of the layer content thumbnail for Layer 3 in the Layers palette (see Figure 1.24).

With the mask in place on Layer 3, you can control the content that is visible by altering the mask. Darkening the mask (adding black or grays) blocks the

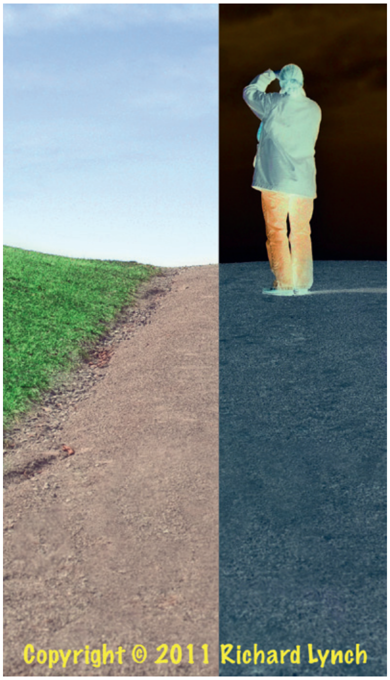
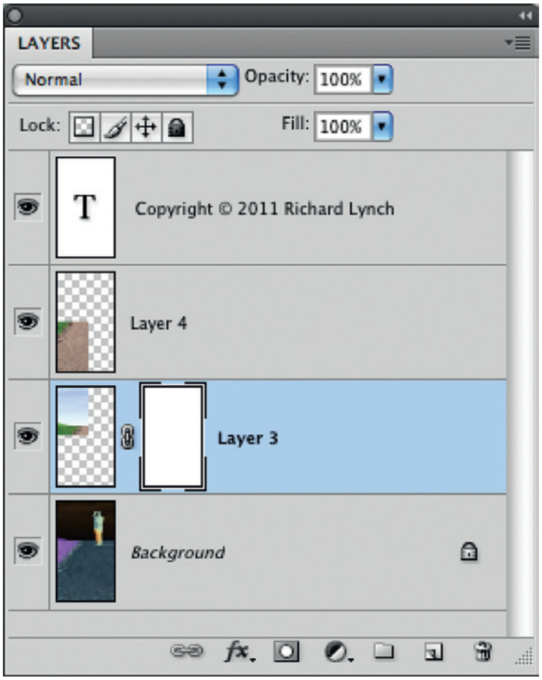


FIG 1.23 Inverted content will appear like a color negative

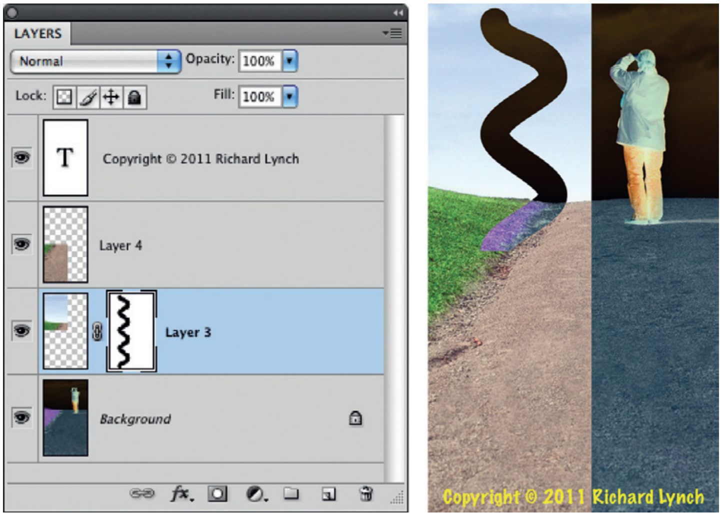


Normal
Opacity: 100%
Lock:
Fill: 100%

Copyright © 2011 Richard Lynch
Layer 4
Layer 3
Background

FIG 1.24 The mask is inserted to the right of the layer thumbnail in the Layers palette

FIG 1.25 Masking can hide parts of a layer without deleting the content



Normal
Opacity: 100%
Lock:
Fill: 100%

Copyright © 2011 Richard Lynch
Layer 4
Layer 3
Background

content of the layer. To see how that works, choose the brush tool, press "D" to reset the default colors (black and white at the bottom of the Tools palette), and then press "X" to swap the foreground and background (black). Now click and drag the tool on the image from the upper left of the image to the lower left in squiggling line (see Figure 1.25).

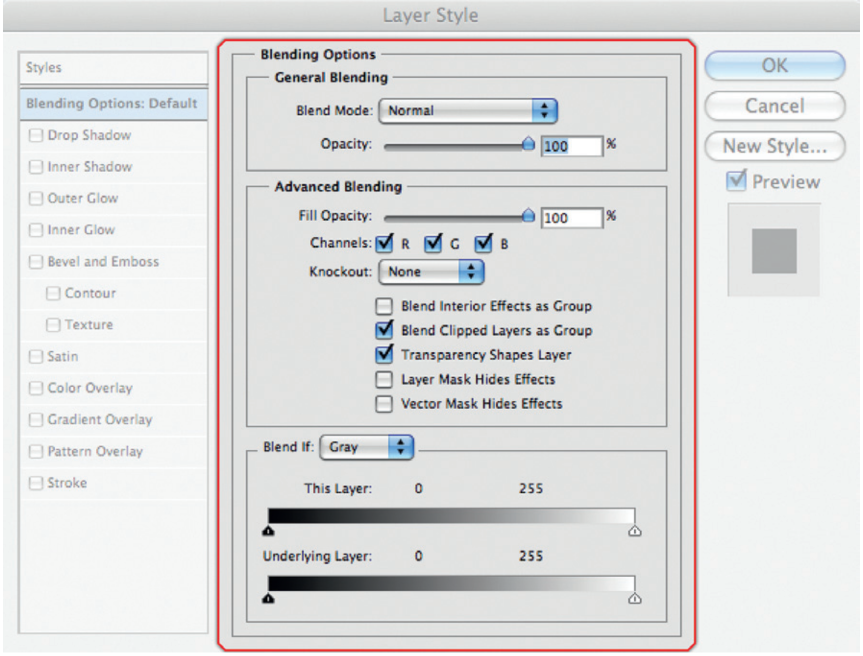
What you should see happen are several things:

- The mask in the Layers palette for Layer 3 will show your painted path in black-on-white.
- The content of Layer 3 will be blocked in the image where the mask was blackened. In this case, the blocked area will appear to invert, showing the content of the layer below it in the layer stack.
- The effect of the mask in the image will stop abruptly at the content of Layer 4, because the content of the mask will affect only the layer where it is applied.

Again, Layer Masks can be controlled more specifically and they work in unison with opacity, modes, and blending to affect the final result. As masking is a much larger subject, it is addressed in a dedicated chapter, Chapter 3, “Targeting Change by Isolation and Masking”.

Layer Blending

A means of calculating blending based on layer content, hidden in the depths of layer features, is Layer Blending. Accessed through the Layer Style dialog (see Figure 1.26), blending can allow you to control tone and color ranges to which a layer is applied, including specific color components. While used less frequently,


Layer Style
Styles
Blending Options: Default
Drop Shadow
Inner Shadow
Outer Glow
Inner Glow
Bevel and Emboss
Contour
Texture
Satin
Color Overlay
Gradient Overlay
Pattern Overlay
Stroke
OK
Cancel
New Style...

Blending Options
General Blending
Blend Mode: Normal
Opacity: 100 %
Advanced Blending
Fill Opacity: 100 %
Channels: ☑ R ☑ G ☑ B
Knockout: None
☐ Blend Interior Effects as Group
☑ Blend Clipped Layers as Group
☑ Transparency Shapes Layer
☐ Layer Mask Hides Effects
☐ Vector Mask Hides Effects
Blend If: Gray
This Layer: 0 255
Underlying Layer: 0 255
☑ Preview

FIG 1.26 Layer Blending is made up of three smaller panels: General Blending, Advanced Blending, and Blend If (conditional blending)

and fairly specialized, blending can leverage some unique capabilities, explored in the dedicated section of Chapter 3 titled "Blend If: Conditional Masking".

Organize Layers to Keep Your Sanity Claus

In the movie "Night at the Opera," Chico of the Marx Brothers, in reviewing a contract with Groucho, proclaimed "You can't fool me: there ain't no Sanity Claus." Layers can drive you crazy when you start creating a lot of them. Stacks will get so long that they run off the bottom of your Layers palette even when it is fully extended. Once, doing a design project, I ran a single image to over 2000 layers in order to demo part of a proposed software interface. Memorizing where everything in the layer stack was became completely impractical, and I had to rely on features in the program to help out. While you will possibly never build a single image with 2000+ layers, you will still want to take advantage of the organizational features in the Layers palette to help organize the content. Content hierarchy, layer naming, grouping, and linking all perform specific useful functions in keeping an image layers organized so that trying to locate content will not drive you nuts.

Arrange Content Hierarchy

One of the simplest concepts of layers – once you get it – is the idea of layer hierarchy. The simple explanation is that the layers at the top of the layer stack are dominant and cover or outrank the content of layers below them in the stack. It becomes quite a bit more complex when you roll in opacity, masking, modes, and clipping layers, but the basic gist remains that the layers at the top of the stack affect everything below them in forming the result.

Layers can be moved up and down the layer stack, but you need to always consider the hierarchy to be sure that movement does not adversely affect what you have tried to accomplish in the image. For example, in the sample image, double-click the Background layer, and click OK on the dialog that appears to convert it to Layer 0. Now click-and-drag on Layer 0 to move it to the top of the stack. The layer will appear at the top of the layer stack, and the content of the three other layers in the image will be over-ridden. Toggle the view of Layer 0 on and off, and you will see that the other content is still in the image – it is just hidden by the dominant upper layer.

Do not randomly move layers in the stack as that is likely to cause changes in the result. However, moving layers with caution and purpose is often necessary to define changes and organization properly.

Naming Layers

A very important means of keeping layers under control is being consistent with naming your layers (and layer groupings, which we'll look at in a moment). When new layers are created by the program, they are created by default with a generic name (e.g., Layer #, adjustment layer type and number, or type entered for type layers). While it is useful to have layer names, generic names serve very little purpose. Instead of just accepting the given name, renaming the layer according to its purpose can tell what the layer was created to do. For example, changing the name of Layer 3 to Upper Left, and the name of Layer 4 to Lower Left may be more effective in defining what the content of the layers is.

Layer names could include vital information like settings for opacity and the Layer mode. This can tell you about the effect of the layer content without having to activate and explore the layer. Used in conjunction with a short description of what the layers are used for can help identify content and purpose. For example, names like Darken Sky, or Brighten Shadows, or Sharpen along with the tool used and settings will tell you what you were doing with a layer so you don't have to reverse engineer the process to figure out how you achieved what was there. With your layers named according to their purpose, not only will you be able to tell what they do at a glance, but you will be able to return to the image at a later time and know what you used the layers for in the image.

You can also number layers to show what order you create them in. This is handy especially if you don't necessarily work from the bottom to the top of the layer stack. If you are still working to develop your layer strategy, numbering the layers as you create them will be extremely helpful to you.

By naming the layer by purpose, settings, and number, the names can work as a running history of the changes you make. If you look at Figure 1.27, I applied saturation, rebuilt some contrast that was lessened by the previous correction, blurred to smooth out the color, separated the shadows to burn in the dark areas of the image, and finally added type – in that order from the bottom of the layer stack up. I know everything I did to achieve the effect(s) in the image, and I know how I achieved the result.

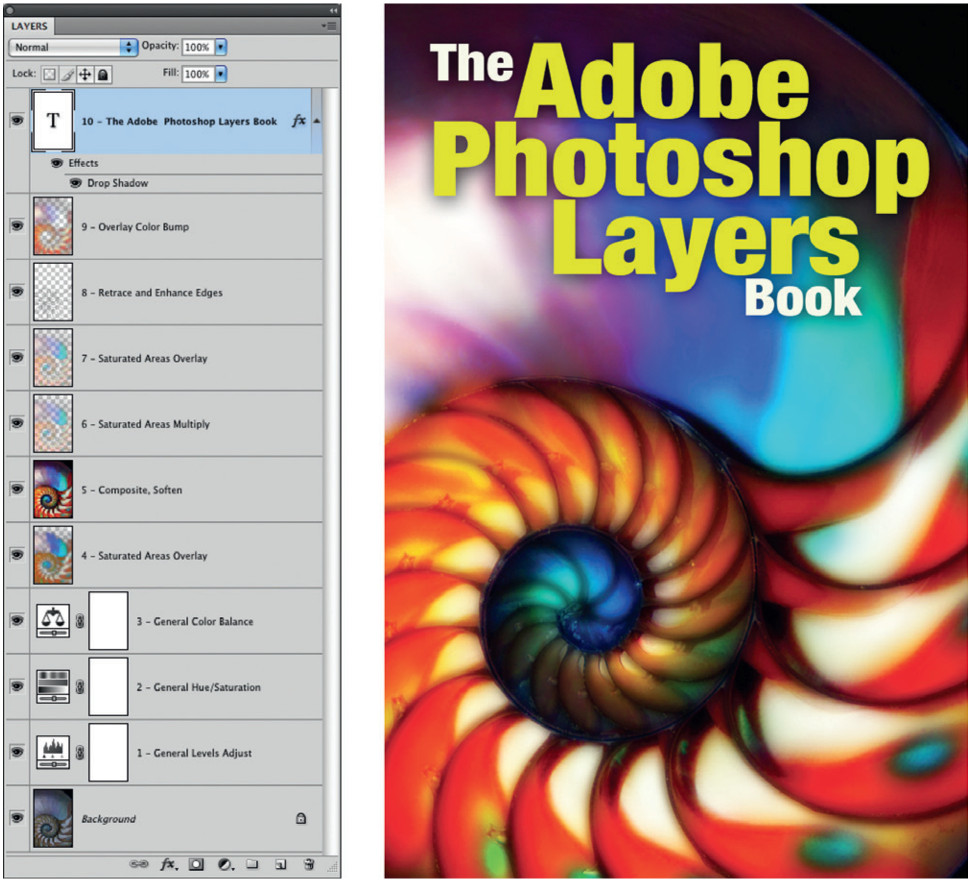
Many of the techniques I use daily for image correction are built around layering steps I discovered by experimentation, using and saving multiple layers. Because I use naming conventions described here, I could revisit images where I achieved effects I wanted to replicate, see how it worked, and revise and apply that to other images. Without using naming to my advantage, exploring the layers to reproduce an effect might be very time consuming and more like archeology than image editing.

Tip

To change the name of a layer, double-click directly on the layer name in the Layers palette. The text will highlight, and you can type over it. Change names as you proceed and get in the habit.

Group Layers

When you begin to work heavily with layers, things will start to get unwieldy pretty quickly. It may sound funny to those who currently don't use layers that you can actually end up with hundreds and even thousands of layers in an image, as I described earlier. Revisions and versioning (where you create several versions of an image for approval) can be stored neatly in groups. Instead of scouring a huge long list of changes for all the different parts of the adjustments, all of a similar type might be added to one group. Different image versions might be added to separate groups that could be viewed or



Normal

Opacity: 100%

Fill: 100%

LAYERS
Lock:
10 - The Adobe Photoshop Layers Book
Effects
Drop Shadow
9 - Overlay Color Bump
8 - Retrace and Enhance Edges
7 - Saturated Areas Overlay
6 - Saturated Areas Multiply
5 - Composite, Soften
4 - Saturated Areas Overlay
3 - General Color Balance
2 - General Hue/Saturation
1 - General Levels Adjust
Background
The Adobe Photoshop Layers Book

FIG 1.27 An example mockup of the Photoshop Layers Book cover, and how that might look in the layers palette

hidden and used as a means of comparison. Grouping can make it easier to locate specific changes and make the layer stack more manageable.

Groups work like folders in your computer's file structure. You can create a Group using the Group button on the Layers palette, or you can choose New Group from the Layers palette menu. Once created, you can drag layers into and out of the group folders, adjust the position of layers within a group, and nest groups as well. To create a group from existing layers, highlight the layers you want to group and then choose New Group From Layers from the Layers palette menu, or drag the highlighted layers to the Create a New Group button. Expand and collapse the group with the toggle to view or hide the layer grouping inside (see Figure 1.28). Layers in any group remain fully editable. An entire group can be masked and adjusted for layer properties like opacity and mode.

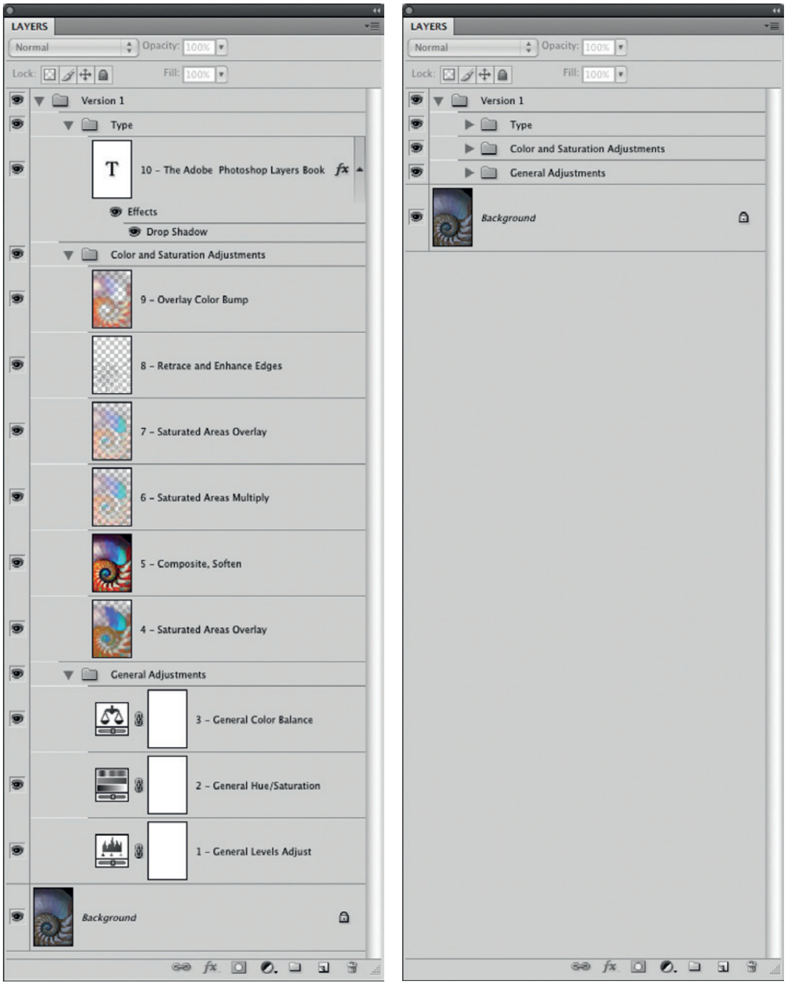

LAYERS
Normal
Opacity: 100%
Lock:
Fill: 100%
Version 1
Type
10 – The Adobe Photoshop Layers Book
Effects
Drop Shadow
Color and Saturation Adjustments
9 – Overlay Color Bump
8 – Retrace and Enhance Edges
7 – Saturated Areas Overlay
6 – Saturated Areas Multiply
5 – Composite, Soften
4 – Saturated Areas Overlay
General Adjustments
3 – General Color Balance
2 – General Hue/Saturation
1 – General Levels Adjust
Background
LAYERS
Normal
Opacity: 100%
Lock:
Fill: 100%
Version 1
Type
Color and Saturation Adjustments
General Adjustments
Background

FIG 1.28 When expanded, groups show the layers they contain. When collapsed, the layers are hidden in the group folder

Be aware that the order of how you create and stack layers sometimes matters to the result. Moving layers around in the stack willy-nilly just to accomplish a neat grouping may have an effect on the image result. In the case of groups, always view the image on screen while grouping layers to be sure the layer grouping doesn't affect the image result!

Linked Layers

Yet another potential organizational tool is layer linking. Linking is really independent of other types of layer organization (like groups). Linking allows you to make layers behave as a unit – whether the layers are consecutive or not in the layer stack (unlike groups, because layers in the group have to be consecutive). This can be handy for keeping layers in registration and moving in unison on the layer plane.

As an example, say you created a drop shadow for the type in the example image in a separate layer. You would want the shadow to remain linked to the position of the type that it was created for. Linking the type and type shadow layers would assure that repositioning the copyright would automatically reposition the shadow without having to move and re-align the shadow separately.

To apply linking, highlight the layers to be linked, and click the Link Layers button at the bottom of the Layers palette.

Merge Layers for Image Efficiency

There are reasons to create layers, there are reasons to delete them, and there are reasons to combine their content. Combining layers is referred to as merging. Merging combines the content of two or more layers into a single layer. Merging, done for the right reasons, saves on file size and simplifies the organization of the layers.

Layers can be merged from various groupings: linked layers, grouped layers, visible layers, active (highlighted) layers, and layers that are consecutive in the layer stack can all be merged. Usually you will want to merge layers which you otherwise really don't have a reason to keep separate. Frankly, I find myself merging layers more often because they are essentially mistakes: instances where I have made a layer without a unique purpose. It is useful to know how to merge as it can allow you to quickly simplify layers that do not need to be distinct.

Be aware that merging shape layers (those that contain vectors) or type layers will result in the conversion of the layer content to raster content (image areas defined by pixels rather than vectors). This will result in vectors or type that will no longer be editable. Usually you want to keep vector and type content and type in their own layers so it remains editable.

The basics of merging are pretty simple. Often you just merge layers to make fewer layers. However, there are instances where you merge to create additional layers, such as merging all the visible content to a new layer in order to apply a filler or effect globally. We explored an example of making fewer layers in the first example in the chapter where the signature was merged with the image background. Merging is accomplished by choosing the merge type you want from the program's Layer menu or the Layers palette menu, or by using shortcuts (Command+E/Ctrl+E to make simple merges; Command+Shift+E/Ctrl+Shift+E to make complex merges). The Merge commands in the menus will change depending on the state of the image and what layers are currently available to merge.

Use Smart Objects for Productivity and Consistency

Smart Objects are similar to Groups in function, but the content is handled in quite a different way. Layers in a Smart Object act like a merged layer, and the contents in the layer are actually saved to another image rather than being merged. You can still access the layered content in the separate image and make changes that can affect and update the current image. The smart object looks like a layer with a small icon at the lower right to identify it as a smart object. To edit the content, you double-click the Smart Object layer and the content of the object will open as a new image. You can then save the object as a PSB file (Photoshop Object) and use the objects in other images.

Smart Objects can be really handy if there is some type of layer grouping that you use in different images. For example, say in your exploration of layers you hit on a combination of adjustment layers that seems to you to correct every image you took in a photo session. You could create a smart object from the layers, save it, and then incorporate it into all of the other images from the session. Other more probable uses are templates. For example, say you were elected to shoot your son or daughter's team pictures. You might make a frame like a baseball, softball, soccer ball, etc., card, and then import it to the individual team player shots (see Figure 1.29).

To create a Smart Object, highlight the layers you want to group, and then choose Convert To Smart Object from the Layers palette menu. The object will be saved for you. To edit it, just double-click the Smart Object layer and the object will open as a new image.

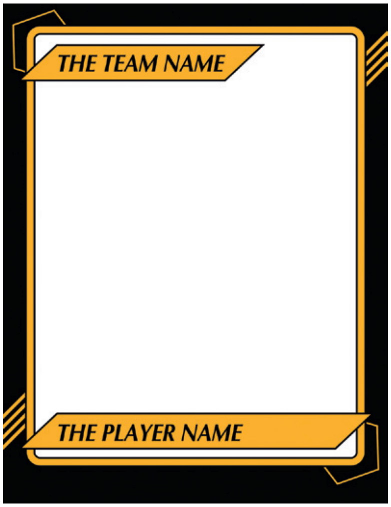


FIG 1.29 Player card frames can be added to a whole team, and if you misspell the name, you change it in one place to change all of them

Use Layer Comps for Previews and Versioning

A part of Photoshop that may generally be underused is Layer Comps. Comps are like a command center for the display of layer content, a means of quickly changing even complicated configurations of layer visibility. While there are likely a plethora of creative uses for Comps (for example, it suggests applications for computer animation), controlling versions is probably the intended use and probably the most useful application. Layer Comps can help you store and compare versions of an image, without significantly increasing file size (as can happen when working with Groups).

To use Layer Comps, you are going to want to open the Layer Comps palette. To open the Layer Comps palette, choose Layer Comps from the program Window menu (Window>Layer Comps). The Layer Comps palette will appear on screen. (See Figure 1.30.)

Defining a Layer Comp is easy. Just set up the layers in the image as you want them to be, and create the Layer Comp by clicking the Create New Layer Comp button at the bottom of the palette. This will store information about the current state of your layers (depending on how you configure the comp) using the name you assign, Visibility, Position, Appearance (style), and Comments (see Figure 1.31).

You can create comps at any time during image development, but it is probably best to do it at the end of the process of correction or creation of a final version, or while doing revisions.

To retain the integrity of a Layer Comp you have to keep the layers involved in all comps in the image (no deleting, renaming, or merging). Changes to the pixel content of a layer will change the content of that layer in every comp.

Getting Started Creating Layers: An Exercise

Much of this lesson has just been theory and description. To get to see these things in action I've got an exercise that will serve to solidify the concepts.

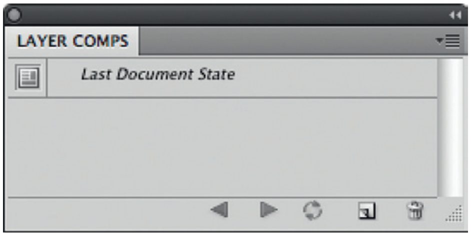
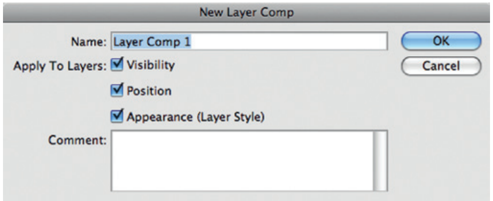


FIG 1.30 The Layer Comps palette is a command center for layer views



Name: Layer Comp 1

Apply To Layers: ☑ Visibility

☑ Position

☑ Appearance (Layer Style)

Comment:

FIG 1.31 The comp name, layer properties and comment can all be saved in the comp and with the image

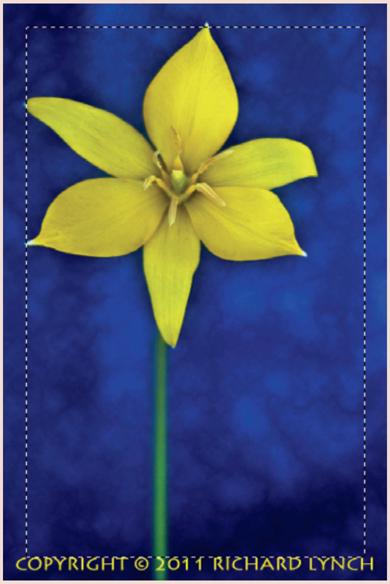
You'll work through some steps geared toward achieving a specific result, and in the process create some layers and see a part of how they work in unison.

While this may look like a long exercise, it is a fairly easy run-through of some layer creation techniques that are more or less practical. You should be able to complete it in less than 20 minutes. If you take too much longer than that, please stop, put it aside, and try again in a day or two. If you are perplexed, ask questions on the forum for the book at http://photoshopcs.com/forum. We are going to take an image, and add a drop shadow and copyright.

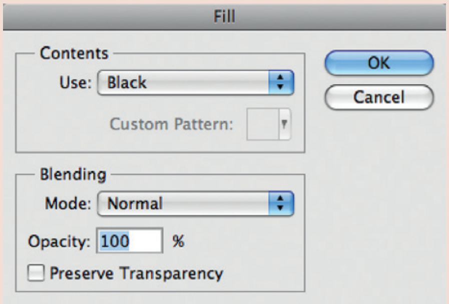
Try It Now: Add a Drop Shadow and Copyright

1. Open an image (flatten it if necessary). This can be any image but you can use Sample_1.3.psd provided in the downloads.
2. Duplicate the Background layer. Consult the earlier section on layer creation to see the layer duplication methods.
3. Change the layer name of the Background Copy layer to 1 Duplicate Background. See the section on layer naming if you are unsure how to change the name.
4. Choose the Type tool by pressing "T" on your keyboard. Choose a font and font color to add a copyright to your image.
5. Click on the image with the type tool to create a new type layer, and type in "Copyright © 2011", and move the copyright to a place in the image that seems suitable using the Move tool (click the Move tool on the toolbar, or press "M" on your keyboard). To type the copyright symbol, press Option+G on a Mac; on Windows, hold down the Alt key, and on the number pad, press 0-1-6-9. If using a laptop or keyboard without a number pad, you will need to use your FN key to access secondary key functions and/or Numlock. Consult your computer user manual if you have difficulties accessing special characters.
6. Change the name of the type layer you created to 2 Copyright Text. Consult the earlier section on layer naming if you need details about changing a layer name.
7. Create a new layer at the top of the layer stack. Consult the earlier section on layer creation to see new layer creation methods.
8. Name the layer created in the previous step 3 Frame Burn.
9. Select All (press Command+A/Ctrl+A Mac/Windows). The selection defines the active portion of the active layer.
10. Choose Select>Modify>Border. When the Border Selection dialog appears, change the width to 100 pixels and click OK. A marquee should appear in the image indicating where the selection is 50%+ active. (See Figure 1.32.)

FIG 1.32 Depending on the size and resolution of the image, this 100 pixel border may affect the resulting selection to a greater or lesser extent



11. Fill the 3 Frame Burn layer with black. To do this, be sure the correct layer is active in the layers palette, choose Fill from the Edit menu, and when the Fill dialog appears choose these options: Use: Black, Mode: Normal, Opacity: 100%. Do not check the Preserve Transparency checkbox (see Figure 1.33). Then click OK to accept the changes.

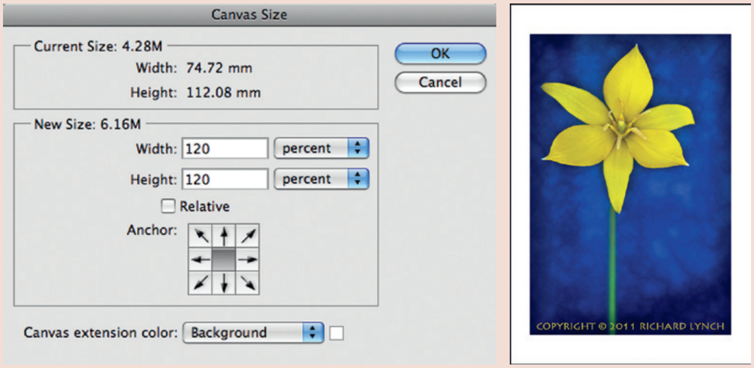


Contents
Use: Black
Custom Pattern:
Blending
Mode: Normal
Opacity: 100 %
☐ Preserve Transparency

FIG 1.33 You can choose other colors than Black if it is more appropriate for creating a border on your image

12. Change the Opacity of the 3 Frame Burn layer to 40%, and change the Mode to Multiply. Lowering the opacity moderates the effect. Changing to Multiply has no effect in the case where the fill is black, but generally burning and darkening are applied with Multiply mode.
13. Press D on the keyboard to recall the default colors in the foreground/background swatches on the tool bar.
14. Choose Canvas Size from the Image menu. When the dialog appears, choose the following options: New Size Width: 120%, New Size Height:

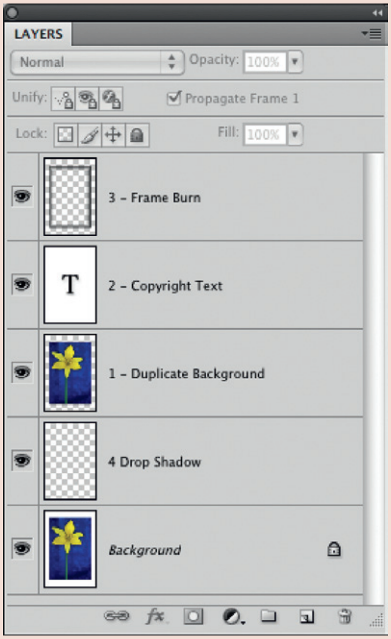
120%. Do not check the Relative box; leave the anchor at the default (center), Canvas Extension Color: Background. Click OK. This will create a white border around your image. (See Figure 1.34.)



Current Size: 4.28M
Width: 74.72 mm
Height: 112.08 mm
New Size: 6.16M
Width: 120 percent
Height: 120 percent
☐ Relative
Anchor:
Canvas extension color: Background

FIG 1.34 Resizing the canvas will create a white border around the original image content

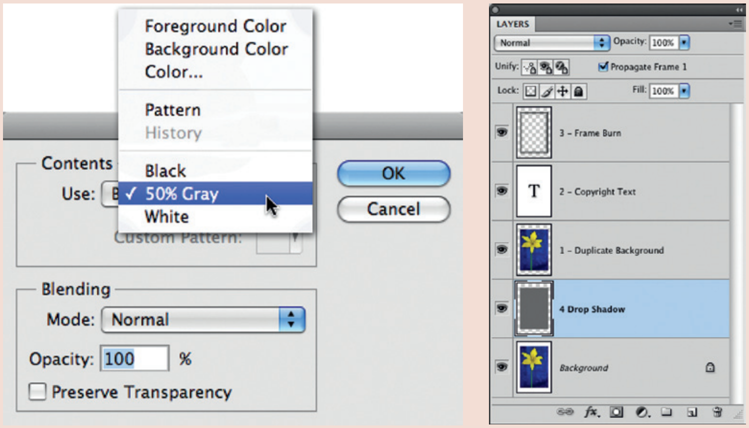
15. Click on the Background layer in the Layers palette to activate it.
16. Create a new layer, and name it 4 Drop Shadow. The new layer will appear above the Background. (See Figure 1.35.)



Normal
Opacity: 100%
☑ Propagate Frame 1
Fill: 100%
3 – Frame Burn
2 – Copyright Text
1 – Duplicate Background
4 Drop Shadow
Background

FIG 1.35 After creating the 4 Drop Shadow layer, your layers should look similar to these

17. Hold down the Command key on Mac or the CTRL key on Windows and click directly on the 1 Duplicate Background layer thumbnail in the Layers palette. This will create a selection using the 1 Duplicate Background layer content.
18. Fill the 4 Drop Shadow layer with 50% Gray (see Figure 1.36). Use the Fill function. Be sure the correct layer is active before you fill. This will fill in gray under the 1 Duplicate Background layer.

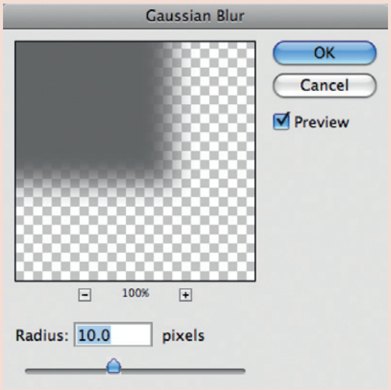

Foreground Color
Background Color
Color...
Pattern
History
Black
✓ 50% Gray
White
Custom Pattern:
OK
Cancel
LAYERS
Unify:
Propagate Frame 1
Lock:
3 – Frame Burn
2 – Copyright Text
1 – Duplicate Background
4 Drop Shadow
Background

Contents
Use: 50% Gray
Blending
Mode: Normal
Opacity: 100 %
☐ Preserve Transparency

Normal Opacity: 100%
☑ Propagate Frame 1
Fill: 100%

FIG 1.36 Change the Use content to 50% Gray

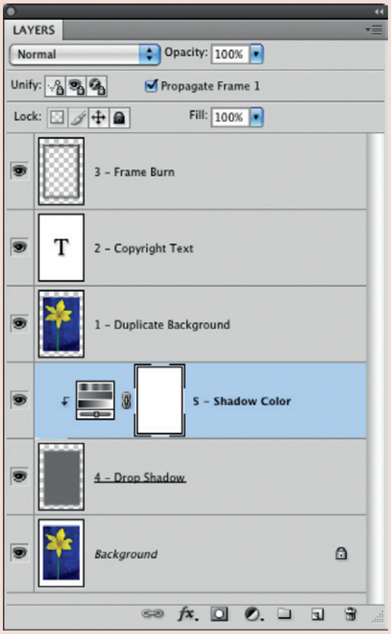
19. Deselect the selection by pressing Command+D / Ctrl+D Mac/Windows.
20. Choose Gaussian Blur from the Filter menu (Filter>Blur>Gaussian Blur). When the Gaussian Blur dialog appears, use a radius of 30 pixels, and click OK. (See Figure 1.37.)


Gaussian Blur
OK
Cancel
100%

☑ Preview
Radius: 10.0 pixels

FIG 1.37 Change the radius on the blur by moving the slider or typing the number you want

21. Choose the Move tool (press V), and move the 4 Drop Shadow to a place you find pleasing. You can move the layer content by clicking and dragging in the image or by using the arrow keys on the keyboard. If you click-drag, be sure the Auto-Select option for the Move tool is unchecked in the Options bar.
22. Make a Hue/Saturation adjustment layer by choosing Hue/Saturation from the Layer>New Adjustment Layer submenu. When the New Layer dialog appears, click the Group With Previous checkbox (This may be called "Use Previous Layer to Create Clipping Mask" or some other wording variation depending on your version of Photoshop); then click OK. When the Hue/Saturation dialog appears, click the Colorize box and adjust the Saturation and Hue sliders to achieve a color effect. Change the name of the layer to 5 Shadow Color. Your layers should look like those shown in Figure 1.38.

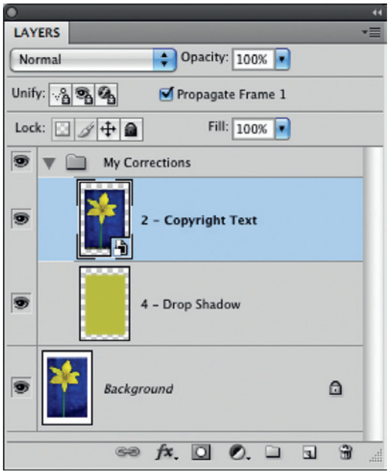


Normal
Opacity: 100%
☑ Propagate Frame 1
Fill: 100%
3 – Frame Burn
2 – Copyright Text
1 – Duplicate Background
5 – Shadow Color
4 – Drop Shadow
Background

FIG 1.38 You should now have 6 layers: Background, 1 Duplicate Background, 2 Copyright Text, 3 Frame Burn, 4 Drop Shadow and 5 Shadow Color

The six layers you created give some practice with some of the most basic concepts discussed in the chapter. Following the instructions is the easy part. If you want to get more from this, do the following to achieve layers that look like those shown in Figure 1.39.

FIG 1.39 The Image and Layers palette after the additional adjustments in the bullet list are complete



Additional Steps

- Move the Copyright layer to the top of the layer stack (if you don't the Frame Burn layer may darken the text – you want the copyright to be the top-most layer).
- Make a Group from the layers you created. You did not create the Background layer, so do not include it in the group.
- Make a Smart Object from layers numbered 1, 2, and 3. Rename the layer as appropriate.
- Activate the 5 Shadow Color Adjustment layer, and merge down. This will commit the color adjustment to the drop shadow.
- Double-click the Smart Object layer just to see how it behaves when you open it. Close the smart object.

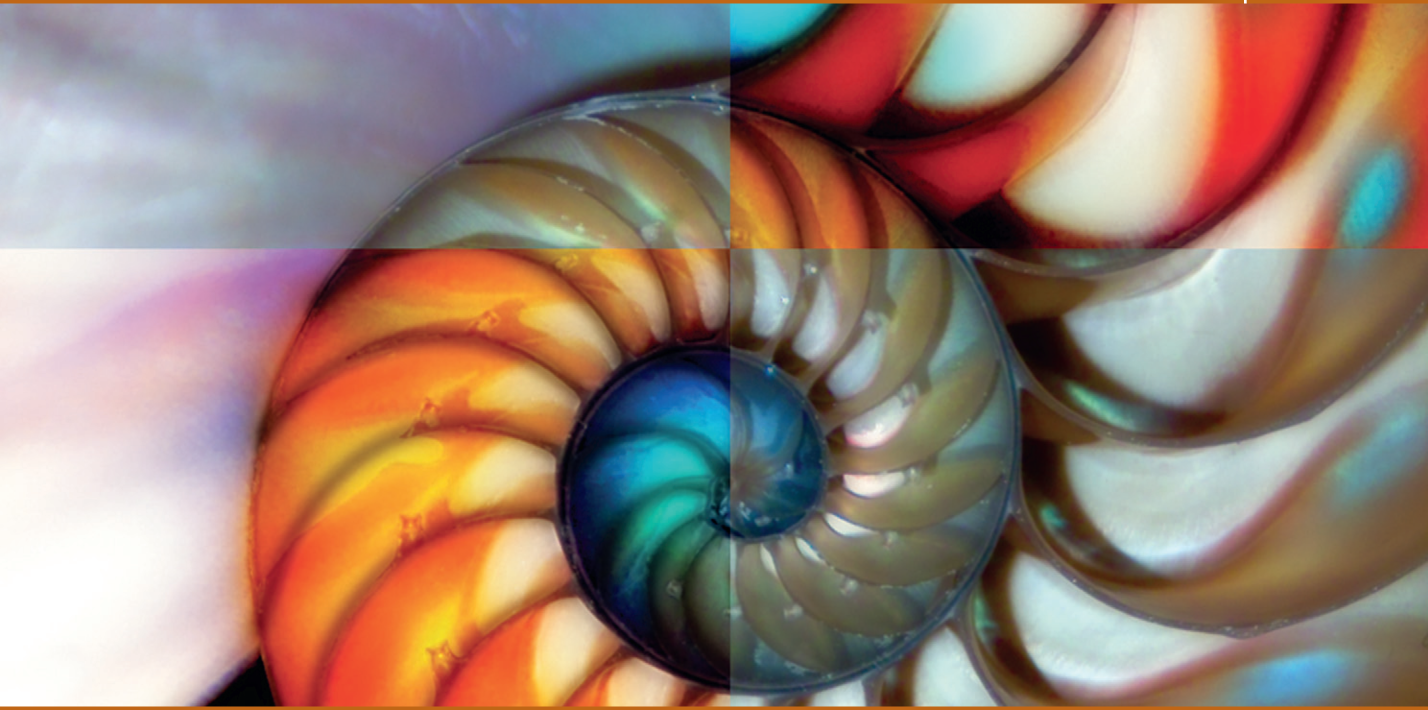
Summary

We looked at a lot of things in this chapter, from the basics of how to approach image correction to what a layer is, and how they are applied. We did not get into a long, painful discussion of the multitude of features on the Layers palette and layer menus. However, there is a diagram of the Layers palette in Appendix 1 at the back of the book. You should explore the palettes and menus when you have the opportunity just to familiarize yourself with the type of commands you find there.

You are invited to ask questions of the author now or at any time in your exploration of this book and materials. The web site photoshopcs.com is dedicated to this book and meant to support readers. It includes additional techniques, a forum, a blog, contact information for Richard, and more. Go to http://photoshopcs.com/forum to join in on the free discussion forum for the book, learn about online classes, and more.

The core purpose of this chapter is introductory, to provide some fundamental concepts in using layers. Now that you have seen some of what layers can do, let's move on to learning how they help you target change in your images.

CHAPTER 2



Targeting Change with Layers

One of the primary values of working in Layers is isolating image areas for change. This gives you the freedom to correct image areas independently and revisit changes as part of image development and work flow. Once you use Layers to isolate changes, you can make adjustments and then fine-tune the adjustments in non-destructive ways that are impossible using selection alone.

Layers allow you to isolate changes in many different ways. In fact, the bulk of this book is really dedicated to describing how different layer features enable change in images. This chapter looks at the simplest concepts behind isolating change and the non-destructive editing work flow, including the purpose and use of Adjustment layers, and the idea of isolating objects and areas within images in the simplest form. As we go, we'll look at several key concepts for image correction that apply to just about any image you will work with to

The Adobe Photoshop Layers Book.

© 2012 Richard Lynch. Published by Elsevier Ltd. All rights reserved.

form the core of your correction work flow. This includes adjusting dynamic range, color correction, and color balance as an initial application of layers in your images.

Adding Layers for a Change

As mentioned in the previous chapter, you want to add a new layer for each change. Some layers may follow this rule very strictly: one layer one change. Other times it can get a little more complicated, but it still follows the same idea. There will be times, for example, that you will use a single layer and correct 100 dust specks. There will be other times that making an adjustment will take several layers to do it effectively. Occasionally you will make a layer to isolate an image area or object (to give freedom in adjusting, positioning, repairing, and replacing objects), and the layer will actually not represent a change at all in-and-of itself. So one-layer-one-change is a general guideline. Common sense and experience will lead you through variations on that theme.

One thing I would recommend not doing is failing to make a layer for a change. That is, even if you are going to remove dust or do other adjustments to an image that you feel are absolutely permanent, make the correction on a layer. I have heard the question many times "Why can't I just make this correction right on the background?" Of course it is possible. It is possible but if you start there, you are already ignoring the premise of non-destructive editing, which is that you do not permanently change the original image content. I can not possibly recount all of the instances where a direct change of the original information might prove important. At the very least, following the non-destructive path from the outset assures that you have the source. Another advantage may be in being able to demonstrate corrections from beginning to end (no doubt very effective in copyright battles).

A complete list of layer types can be found in Appendix 1. Any one of these can be used to make changes to your images. One of the simplest in concept is Adjustment Layers. This allows you to make changes in the appearance of an image using Photoshop features and functions in a way where the changes are not applied directly to – isolated from – the pixels.

Isolating Correction in Adjustment Layers

Adjustment layers are layers that are added to images based on correction functions. Instead of applying the adjustments directly to the image, adjustment settings are retained in a separate layer. The layer settings can be readjusted later, temporarily hidden, or even removed at any point in the processing. The ability to change your mind later is a key advantage to non-destructive work flows. The point again is that the correction or change remains distinct within the layer stack and never directly changes the original image pixel information.

Creating and applying an adjustment layer is easy, as is altering the adjustment or hiding it, or deleting the adjustment entirely. To create an adjustment layer, just choose a function from the New Adjustment Layer submenu (Layer>New Adjustment Layer). This will open the New Layer dialog. When you click OK, the new layer is created in the Layers palette, and the dialog for the adjustment will appear in the Adjustments palette. Be sure you have the Layers palette and Adjustments palette in view so you can see everything that is going on.

The hard part about adjustment layers is making the adjustment. You can fiddle randomly with tools, but it takes a lot longer to get anywhere with them than if you know what to do. To kill several of the proverbial birds with one stone, let's look at adjustment layers and get some hands-on experience with the feature in the context of our correction process.

Tip

Adjustment layers can also be created using the New Adjustment Layer button at the bottom of the Layers palette; when created this way the layer is created without having to address the New Layer dialog by default. You can force the New Layer dialog to appear by holding down the Option/Alt key (Mac/PC) when clicking the button.

Levels Adjustment Layers for Tone and Color Correction

The outlines from Chapter 1 suggest that corrections work better from general to specific: making good general corrections will keep you from making changes to multiple parts of an image that a general correction could have taken care of. A general tone and color correction is where I start with nearly every image. The correction helps make the most of the dynamic range (brightness from white to black) and helps establish color balance that can bring out richness in image color. The technique uses a series of corrections involving Levels and Color Balance adjustments that apply to the whole image, and will work on virtually any image when you learn how to do it correctly. In this case, the adjustments are also useful in demonstrating an application of adjustment layers.

First we'll look at some background theory about how the correction works by learning something about what I call light's fingerprint, and then we'll apply the correction.

Light's Fingerprint

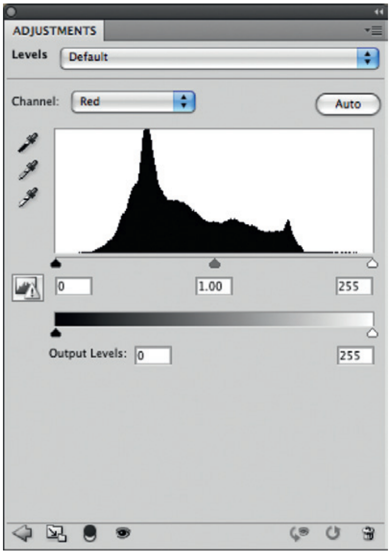
The idea of light leaving a fingerprint is something I talk about to teach the idea behind the theory of color and tone correction. If you talk with other people who are not familiar with this book about "light's fingerprint," there is a good chance they will have no idea what you are talking about. Feel free to refer them to where you heard about it.

Objects in a scene reflect the quality and color of the available light. If the light isn't completely neutral (with even amounts of red, green, and blue light), lacks full spectrum (absolute black to absolute white), tends to favor a particular color over a range of tone, and/or has multiple light influences (different colors of ambient and direct light, for example), the scene reflects those qualities of the light. As a scene can reflect only the colors in the original light source(s), a capture serves as a reliable fingerprint of the general qualities of the lighting in the scene.

This fingerprint is a valuable clue to detecting the correct color for your image. If you examine the fingerprint and learn how to read it, you can identify deficiency of the light, and you can correct image color. When an exposure is captured, the camera captures a fingerprint of the lighting for the scene. Natural lighting at sunset or sunrise, when lighting tends to color objects with warmer tones of yellow and red, is an example of light creating an effect in a scene and leaving its fingerprint. But, taking that further, if your light is pure red, everything in the room will reflect only the red light, and everything (with any red in it to reflect) will appear red. White objects will appear red. Objects with no red at all will appear black. On the other hand, a red object in full-spectrum (white) light will still reflect light broadly. A picture taken of a red object in white light that fills the frame will still have measurable green and blue light components to register the color of the source light accurately. Green and blue may not be measured in the red, but in the textures, spectral highlights and shadows.

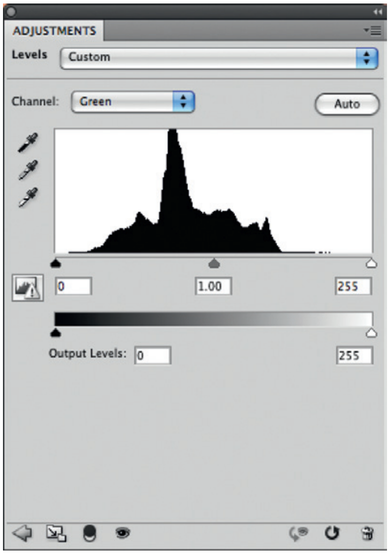
These differences in the intensity of light components and the quality of those components can easily be measured in Photoshop and it doesn't take a science degree. In fact, just a glance at the image histogram can give you a good idea of the quality of light that illuminated the scene originally. An image's histogram (see Figures 2.1–2.3) shows a definitive mapping of exactly how the light fingerprint reacts with the objects in the scene. This measured light quality is the light's fingerprint. It can be fairly accurate in even small samples. When you know more about the light by evaluating the histogram, you can determine what changes to make to balance the color.

A Levels correction based on a simple evaluation of the histogram can work wonders on an image. The changes compensate for exposure and lighting conditions and improve color balance and the dynamic range, without a lot of complicated decision making. The results are non-destructive when the change is made with an adjustment layer. The following section outlines the details of how to make that levels change and how to employ it on virtually any image.



Levels: Default
Channel: Red
0 1.00 255
Output Levels: 0 255

FIG 2.1 Histogram of the Red light component (also called the Red Channel)



Levels: Custom
Channel: Green
0 1.00 255
Output Levels: 0 255

FIG 2.2 Histogram of the Green light component (also called the Green Channel)

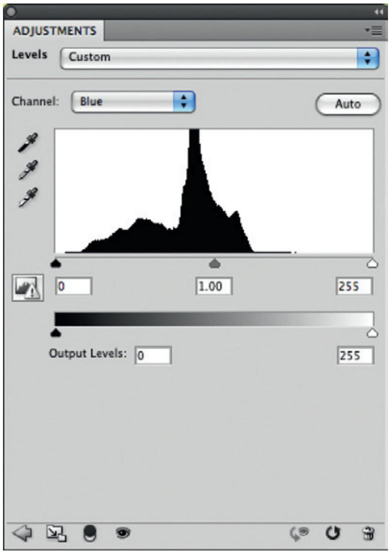


FIG 2.3 Histogram of the Blue light component (also called the Blue Channel)

Detailing the Levels Slider Changes

Making the Levels slider adjustments is a fairly simple process, once you have an outline for what to do. The histogram on the Levels dialog will become your visual guide to all you need to know to make the basic adjustment. Additional changes can be made that reflect user preferences once you get used to using the feature and method.

The primary characteristic that Levels can help with is shortened tonal range. Shortened tonal range is represented by a histogram that does not have information (or so little consistent information that it is more likely image noise than detail) across the entire range of the histogram graph. Specifically, a shortened range is depicted as a gap at either the light end (right, highlights) or the dark end (left, shadows) of the graph or both. A shortened tonal range in any of the channel components indicates that the light source was not full spectrum. When you correct the spectrum, you fix the color (as well as other problems like lifelessness/flatness, lack of contrast, and muted color).

Levels is an extraordinary tool for making adjustments in this situation. All you do to correct a shortened range is move the sliders (black/shadow and white/highlight) to maximize the range of each component. Move the right, white, slider to the left to a position at which the graph shows anything more than image noise; this will make whites brighter. Move the left, black, slider to the right, again to a position at which significant information is displayed in the graph; this will make shadows darker. See the histogram examples in Figures 2.4–2.6 for the Red, Green, and Blue channels.

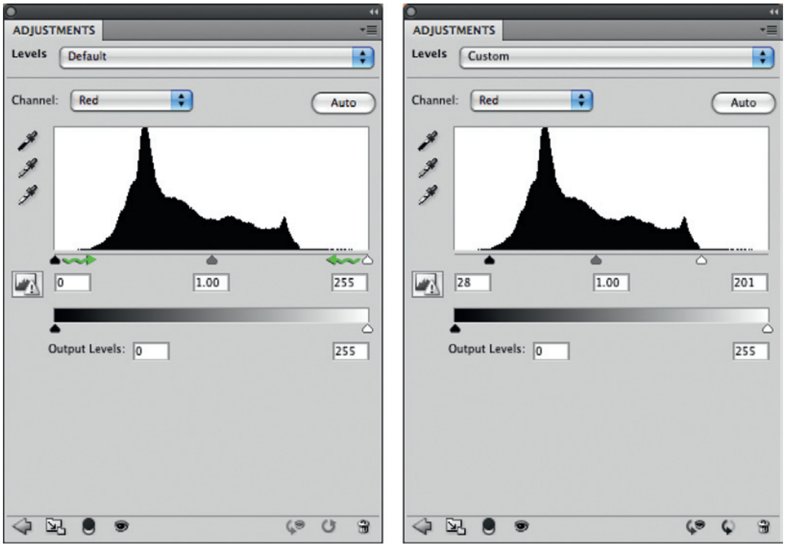


FIG 2.4 Compensate for the shortened tonal range in each of the channels by moving the black and white sliders directly under the graph

Levels: Default
Channel: Red
0 1.00 255
Output Levels: 0 255

Levels: Custom
Channel: Red
28 1.00 201
Output Levels: 0 255

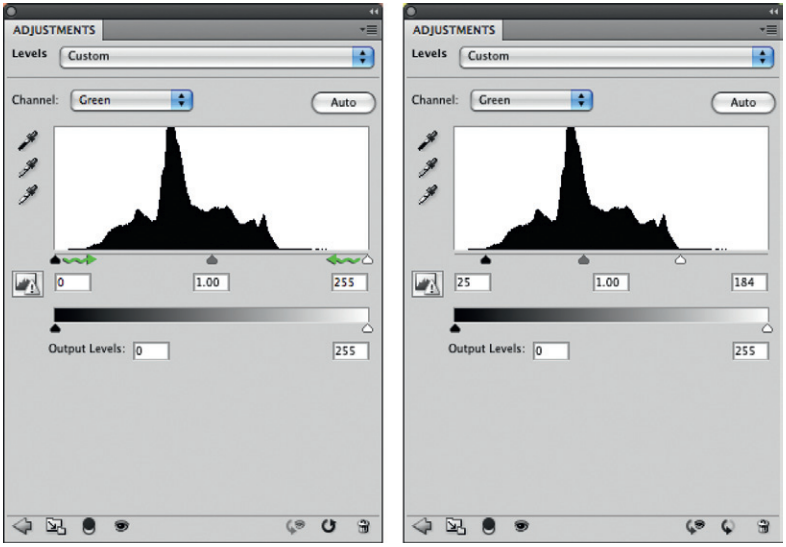


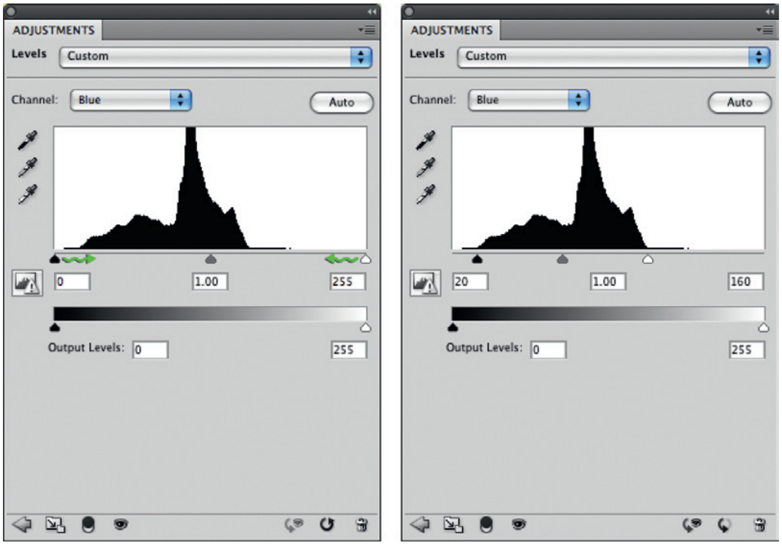
FIG 2.5 Careful positioning of the sliders maximizes the benefits while reducing the loss of important detail

Levels: Custom
Channel: Green
0 1.00 255
Output Levels: 0 255

Levels: Custom
Channel: Green
25 1.00 184
Output Levels: 0 255

Information that falls outside the range of the black and white sliders is discarded, and the image information is redistributed over the tonal range. The new range of the graph is extended as in Figure 2.7. You want to balance all the image information, and be careful to retain as much information as possible so as not to compromise details.

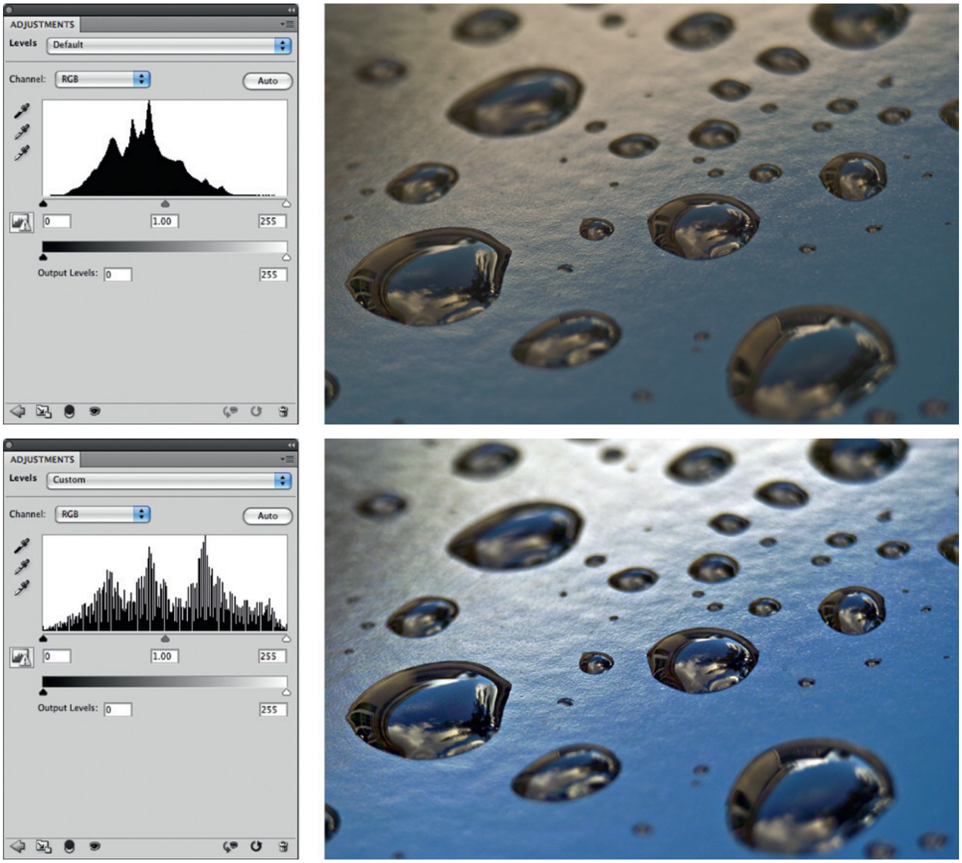
Let's take a look at the levels correction and practical application of adjustment layers in a hands-on exercise.


ADJUSTMENTS
Auto
Output Levels:

Levels: Custom
Channel: Blue
0 1.00 255
Output Levels: 0 255

Levels: Custom
Channel: Blue
20 1.00 160
Output Levels: 0 255

FIG 2.6 After setting the sliders, your image should appear to have stronger contrast and richer, more balanced color


ADJUSTMENTS
Auto
Output Levels:

Levels: Default
Channel: RGB
0 1.00 255
Output Levels: 0 255

Levels: Custom
Channel: RGB
0 1.00 255
Output Levels: 0 255

FIG 2.7 This image is shown before and after the levels adjustment. Note the dramatic change in image dynamics

The Adjustments palette is new as of Photoshop for CS4. If you are using Photoshop versions earlier than CS4, you will need to address the Levels dialog rather than the Adjustments palette.

Try It Now: Applying Levels for Color Correction

1. Open the image you want to correct. For this exercise, open Sample_2.1.psd from the downloads.
2. Choose Layer>New Adjustment Layer>Levels. This opens the New Layer dialog box.
3. When the New Layer dialog appears, change the layer name to **1 – General Levels Adjustment**, leave the other defaults, and click the OK button. This will accept the settings, create a new Levels Adjustment layer, and display the Levels dialog controls in the Adjustments palette. Display the Adjustments palette by choosing Adjustments from Photoshop's Window menu.
4. Select Red from the Channel drop-down list. This reveals the histogram for the red light component. See Figure 2.8.
5. Make a Levels correction for the Red light component. Do this correction by evaluating the histogram and moving the sliders. (See Figure 2.9 for slider placement.)

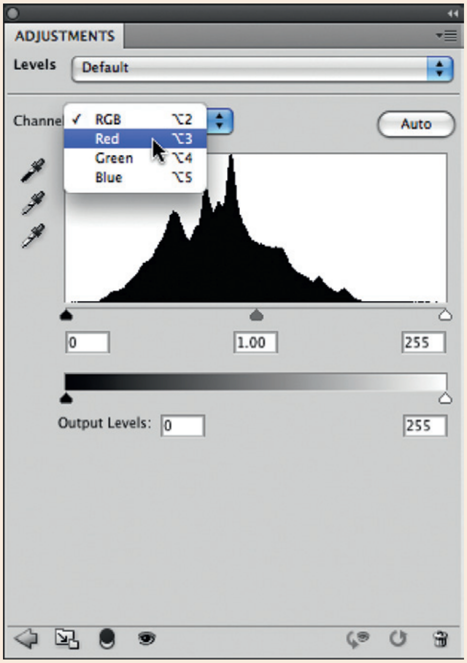
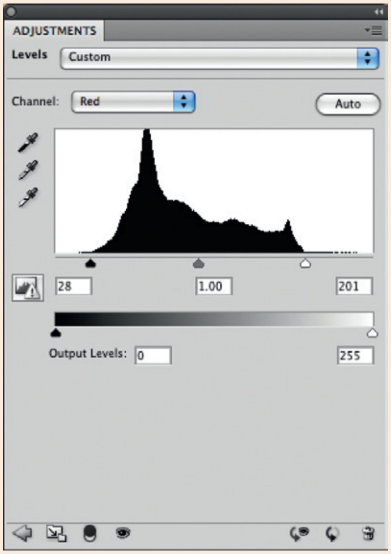


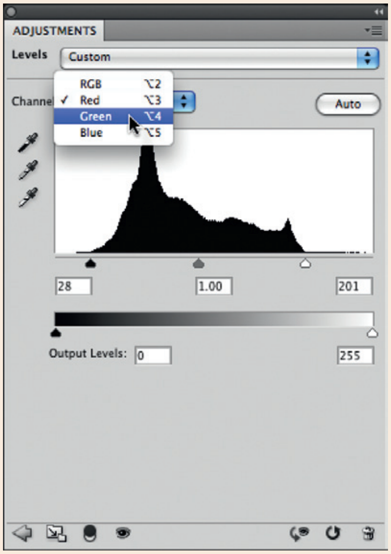
FIG 2.8 This selection isolates your Levels change to the Red light component in the image

When positioning the sliders, keep in mind that graph information that falls to the right of the white slider and left of the black is cut from the image. Tailing on the histogram in the highlights or shadows usually represents image noise rather than real detail. You can generally cut a histogram tail without affecting the image negatively. However, sometimes you will crop none, some, or all of a tail, depending on the content of the image, desired color shift, and length of the tail. Usually you cut less of a very long tail (say 50% of a tail that takes 50% of the graph width). Often you will cut none of a tail that is in the highlights of a high-key image (a snow scene, waterfall, white birds). Shadows are usually more forgiving, but similar tail handling may apply.



Levels Custom
Channel: Red
28 1.00 201
Output Levels: 0 255

FIG 2.9 Both ends of the graph need adjustment. The thin black lines trailing to the left and right of the graph generally represents image noise in highlights and shadows



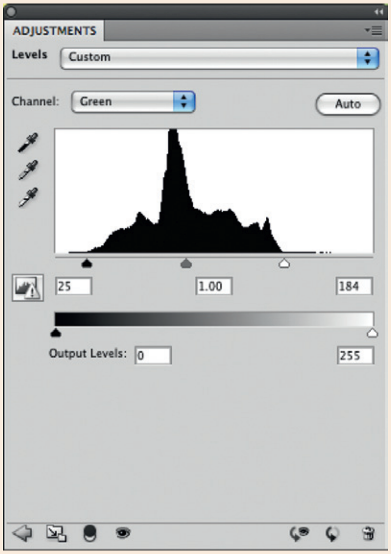
Levels Custom
Channel
28 1.00 201
Output Levels: 0 255

FIG 2.10 This selection isolates your Levels change to the Green light component in the image

6. Select Green from the Channel drop-down list (see Figure 2.10). This reveals the histogram for the Green light component. The adjustments for the Red light component have already been stored.

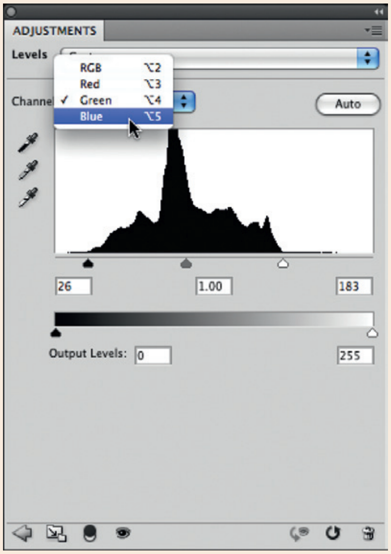
7. Make a Levels correction for the Green light component. Again you want to evaluate the histogram and make appropriate changes in the position of the sliders. (See Figure 2.11 for how to place the sliders.)
8. Select Blue from the Channel drop-down list. This reveals the histogram for the Blue light component. (See Figure 2.12.)

FIG 2.11 Again, you want to bring the sliders in to the position where the graph content becomes significant – more than just a trailing tail of noise



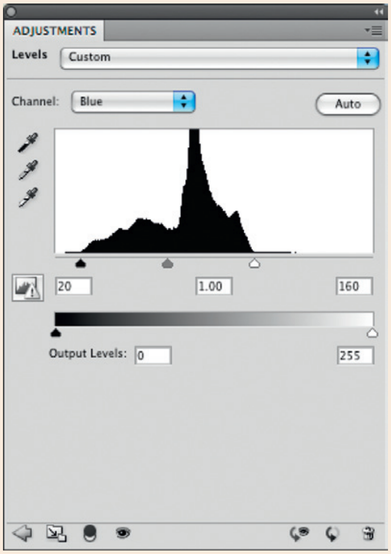
Levels: Custom
Channel: Green
25 1.00 184
Output Levels: 0 255

FIG 2.12 Selecting Blue from the Channels list isolates the representation of the histogram graph to the content of the Blue light component in the image



26 1.00 183
Output Levels: 0 255

9. Make a Levels correction for the Blue light component. Again you want to evaluate the histogram and make appropriate changes in the position of the sliders. (See Figure 2.13 for how to place the sliders.)
10. Make a tone adjustment to the image midtones. To do this, choose RGB from the Channels drop-down list and make an adjustment with the middle (gray) slider to brighten (left) or darken (right) the image.

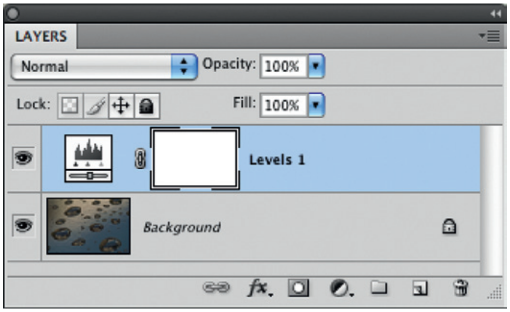


Levels: Custom
Channel: Blue
20 1.00 160
Output Levels: 0 255

FIG 2.13 While the movement of the black and white sliders is similar for each of these histograms, it is not identical. Making changes to each channel separately helps to balance – and correct – image color

After making the Levels adjustment for each of the channels, evaluate the change by eye, on screen (preferably on a calibrated monitor!). You can compare the before and after for the correction by toggling the view for the Levels Correction layer (click the view toggle for the 1 – General Levels Adjustment layer just to the left of the layer in the Layers palette). If you toggle the view for the layer on the Layers palette as suggested, the change in the image should appear to improve image dynamics, contrast, and color. If the changes seem extreme, you can moderate them by changing the position of the sliders in the Levels layer (click it to show the current settings in the Adjustments palette) or by adjusting the opacity of Levels layer. Lowering the opacity of the adjustment layer will reduce the intensity of the correction. These after-the-fact adjustments could not be done if the levels were applied directly to the layer content.

This Levels adjustment for the three channels is one you can often make almost strictly by looking at the appearance of the histogram and adjusting it accordingly – without looking at the image, just as we have done here. If you look at the image while correcting, you may actually be tempted to shy away



Normal
Opacity: 100%
Fill: 100%

FIG 2.14 You should have just the Background layer and the 1 – General Levels Adjustment layer. Be sure the visibility for the adjustment layer is on

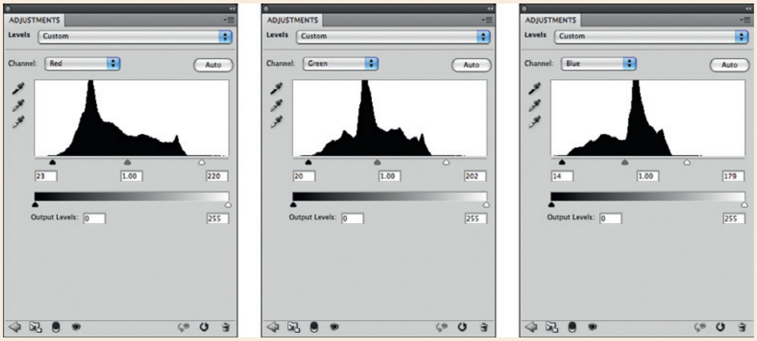
from applying the correction completely (e.g., you make the adjustment to the Red light component and the color gets wacky so you feel you are doing something wrong). The Levels adjustment is not complete until you adjust all three channels; evaluating the change before that is meaningless.

A Levels adjustment will not always work well with images that have inherent color casts (sunsets) or when color filters have been used to achieve color-shifting effects that are desired, as it will tend to moderate or counteract the desired color shifts. However, it should work well to balance color and enhance most images.

When trying to decide if the Levels adjustment is as you want it, you may wish to compare versions. The following exercise walks through how to compare some results with the image from the previous exercise. First we'll set up some variations and store them as History Snapshots. This gives you the ability to compare versions easily. Continue with the image from the previous exercise. The layers should look like the content of Figure 2.14.

Try It Now: Adjustment Layer History Comparison

1. Take a snapshot of the image. To do this, have the History palette open, and click the Create New Snapshot button at the bottom of the palette. This will create **Snapshot 1** below the existing snapshot. There should already be a snapshot named Sample_2.1.psd.
2. Change the name of the Snapshot 1 item to **100% Tail Cut**. Double-click directly on the name in the History palette to change the name of the snapshot.
3. Change the Opacity of the 1 – General Levels Adjustment layer to 50%.
4. Take a snapshot of the image. This will create Snapshot 1.
5. Change the name of the Snapshot 1 item to **100% Tail Cut, 50% Opacity.**
6. In the Adjustments palette, make changes to the position of the black and white sliders so that they cut approximately 50% of the tails. See Figure 2.15 for the positioning of the sliders.
7. Take a snapshot of the image. This will create **Snapshot 1.**
8. Change the name of the Snapshot 1 item to **50% Tail Cut**

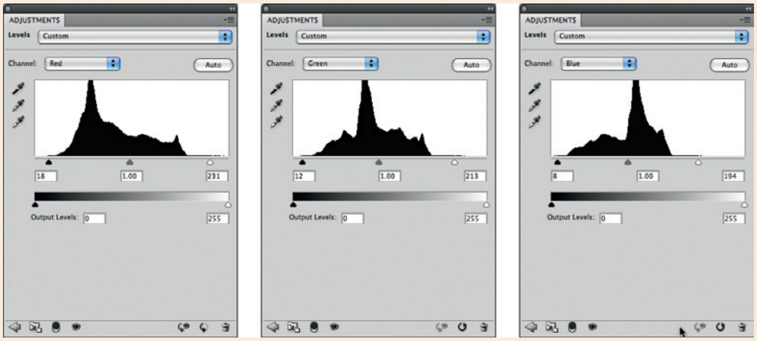


ADJUSTMENTS
Levels: Custom
Channel: Red
23 1.00 220
Output Levels: 0 255

ADJUSTMENTS
Levels: Custom
Channel: Green
20 1.00 202
Output Levels: 0 255

ADJUSTMENTS
Levels: Custom
Channel: Blue
14 1.00 179
Output Levels: 0 255

FIG 2.15 Positioning the sliders by eye in the middle of the tails will serve the purpose for this comparison

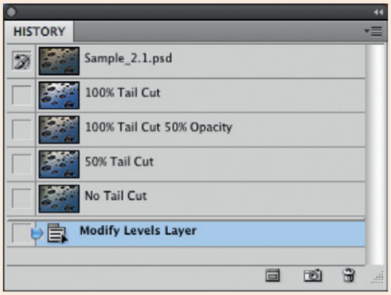


ADJUSTMENTS
Levels: Custom
Channel: Red
18 1.00 231
Output Levels: 0 255

ADJUSTMENTS
Levels: Custom
Channel: Green
12 1.00 213
Output Levels: 0 255

ADJUSTMENTS
Levels: Custom
Channel: Blue
8 1.00 194
Output Levels: 0 255

FIG 2.16 Positioning the sliders by eye at the end of the tails will serve the purpose for this comparison



HISTORY
Sample_2.1.psd
100% Tail Cut
100% Tail Cut 50% Opacity
50% Tail Cut
No Tail Cut
Modify Levels Layer

FIG 2.17 The History should contain five snapshots. With one click you can compare versions

9. In the Adjustments palette, make changes to the position of the black and white sliders so that they cut approximately 0% of the tails. See Figure 2.16 for the positioning of the sliders.
10. Take a snapshot of the image. This will create **Snapshot 1**.
11. Change the name of the Snapshot 1 item to **No Tail Cut**. Your History palette should look like the contents of Figure 2.17.
12. Click directly on a snapshot thumbnail to swap to a different version of the image.

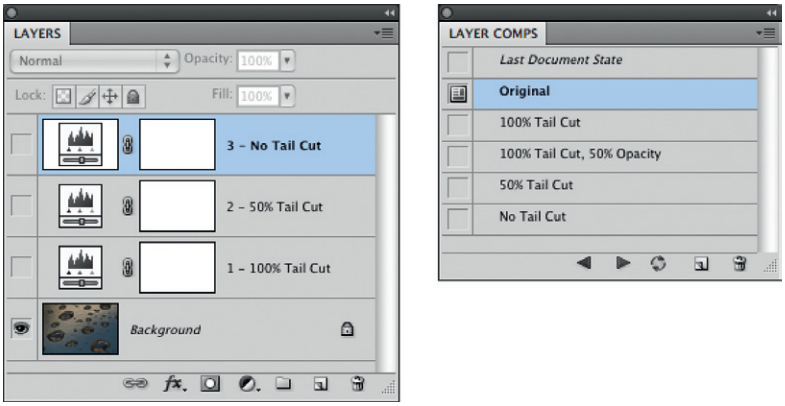


FIG 2.18 Why only three adjustment layers and not four – one to represent each of the four corrected versions? Layer Comps can retain layer styles, and Opacity is a part of layer styles. 100% Tail Cut and 100% Tail Cut, 50% Opacity can use the same adjustment

The advantage of Adjustment layers is demonstrated in this exercise in a nutshell: you can make repeated changes and comparisons to your adjustments without starting over. Even in this simple exercise, it saves several steps; in a more complicated correction, you can multiply the savings exponentially.

Snapshot comparisons are a huge advantage in this case. If you didn't use Snapshots, you would have to apply the Levels correction and write down the changes you made, undo the changes, and redo them. The disadvantage is that you will not be able to keep the snapshots after closing the image. The content of the active Snapshot and any additional steps in the history is the content that will save when you choose the Save command.

The other choice you have here for comparing versions is Layer Comps. The difference in using Layer Comps is that you will want to make a new adjustment layer for each actual change that involves different settings in the adjustment layers (see the Layers palette in Figure 2.18). You will also create one Layer Comp for each version.

The Layer Comps version of the image used in the example is available in the downloads, named Sample_2.1-layer-comp. Open the file in Photoshop and click through the versions either using the Previous and Next buttons at the bottom of the Layer Comps palette, or by clicking the Layer comps indicator to the left of the comp you want to view.

Even more advanced adjustments can be made with Levels using the center, gray, sliders for each channel. Moving these sliders allows you to adjust midtone color balance. However, using a separate correction for Color Balance will give more control and a better overall result than effecting the color balance adjustment with levels. Let's take a look at Color Balance to continue the process of color adjustment you will normally follow in layers.

The Art of Color Balance

Although Levels are excellent tools for normalizing color, extending dynamic range, and even balancing color, they may not always produce the absolute best correction for color casts used on their own. A tweak to color balance, using the dedicated Color Balance feature, will often do quite a lot to enhance your image's color.

The idea of the Color Balance function is to allow you to shift the balance between opposing colors: cyan balances against red, green against magenta, and blue against yellow. These adjustments are made in pre-defined highlight, midtone, and shadow ranges. Working through a Color Balance correction by gauging the changes on screen can often clear up muddy appearances caused by lighting conditions. The goal of Color Balance adjustment is to achieve more vibrant, balanced color.

Try It Now: Applying a Color Balance Adjustment Layer

1. Open the Sample_2.2.psd file from the downloadable files.
2. Open Color Balance by choosing Color Balance from the Adjustment Layers submenu (Layer>New Adjustment Layer>Color Balance).
3. In the Adjustments palette, start with the Midtones radio button selected, and slide the Cyan/Red slider between −50 and +50, watching the effect on the image. Narrow down the range that looks best by swinging the slider in smaller ranges until the best position is achieved based on the screen preview. The "best" position is where the color seems most balanced against the extremes and where the most detail is retained. Key on areas of the image that should be a familiar color; neutral areas, like the gray stone walk, usually provide the best visual clues. Pushing the slider between −50 and +50 provides the preview.
4. Repeat the slider adjustment for the Magenta/Green slider.
5. Repeat the slider adjustment for the Yellow/Blue slider.
6. Click the Highlights radio button on the Color Balance dialog and repeat the slider adjustments for the three color ranges (Cyan/Red, Magenta/Green, and Yellow/Blue). This will make adjustments to Color Balance for the Highlights.
7. Click the Shadows radio button on the Color Balance dialog and repeat the slider adjustments for the three color ranges (Cyan/Red, Magenta/Green, and Yellow/Blue). This will help you make adjustments to Color Balance for the Shadows.
8. Revisit the adjustments for midtones, highlights, and shadows, checking the positions of each slider to be sure the best result is achieved. This will allow you to review earlier adjustments in the context of the changes you made to the Shadows.

The steps here might seem an oversimplification, but this is really all you have to do with Color Balance to achieve the desired result (Figures 2.19–2.23). The critical part of this exercise is that you have to be able to trust your monitor, so it has to be calibrated (and hopefully tested against output as well). Practicing

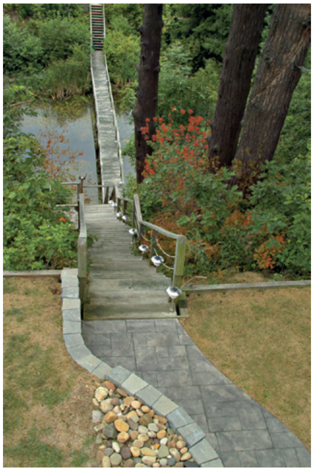
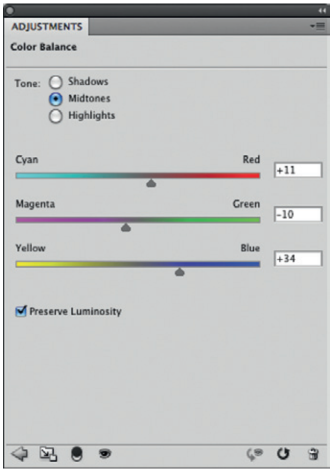
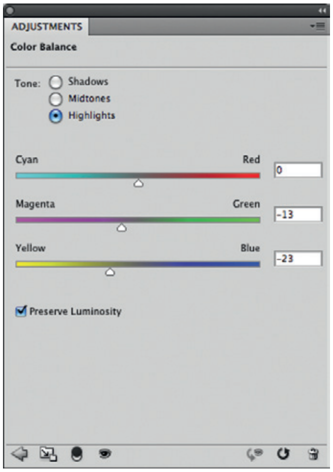


FIG 2.19 This shot seems overwhelmed by green, and balancing the color will make the whole scene richer



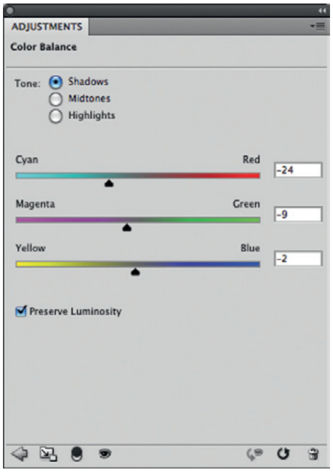
ADJUSTMENTS
Color Balance
Tone: ○ Shadows ● Midtones ○ Highlights
Cyan – Red: +11
Magenta – Green: -10
Yellow – Blue: +34
☑ Preserve Luminosity

FIG 2.20 Your choices may be quite different than these depending on what you expect to see. However, in the end you may compensate differently with other sliders and get a similar result



ADJUSTMENTS
Color Balance
Tone: ○ Shadows ○ Midtones ● Highlights
Cyan – Red: 0
Magenta – Green: -13
Yellow – Blue: -23
☑ Preserve Luminosity

FIG 2.21 Choices here reflect balance in the highlights and interact with choices already made for the midtones



ADJUSTMENTS
Color Balance
Tone: ● Shadows ○ Midtones ○ Highlights
Cyan – Red: -24
Magenta – Green: -9
Yellow – Blue: -2
☑ Preserve Luminosity

FIG 2.22 Choices here reflect balance in the shadows and interact with choices already made for the midtones and highlights

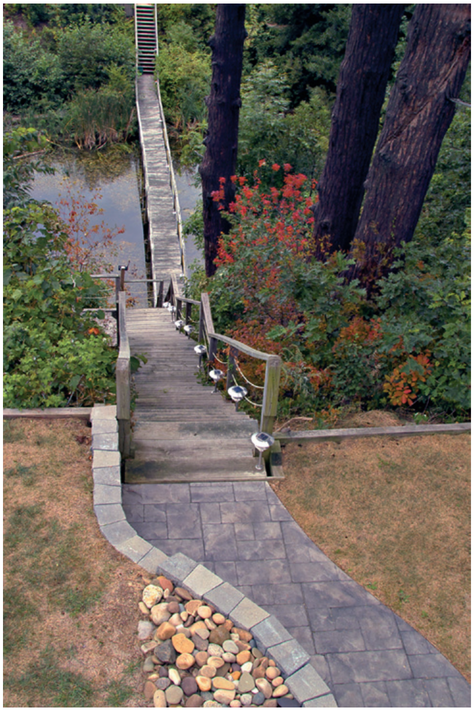


FIG 2.23 Once the changes are complete, there has been some reduction in the green at every level, and the color is generally more balanced allowing other color ranges to have their voice in the image

looking at the changes and how details are affected will help a lot and the adjustment will become far more automatic for you over time. Depending on your choices, the Sample_2.2.psd image will show a dramatic difference after Color Balance, even with small movements of the sliders. Changes will influence color, saturation, dynamics, and even details in the image. You can see the effect on details most easily in the highlights.

The result of a correction on the image appears in the corrected download files. You'll want to toggle the view for the Color Balance 1 layer to see the difference before and after the application of the adjustments as I performed them.

What we have done here with the Levels and Color Balance corrections using Adjustment Layers is look at layers in the context of the working correction outline. The earliest steps should be general corrections, and these non-destructive adjustments help enhance and normalize color, contrasts, and tone to get the most out of the images you shoot.

Another example of general initial corrections is overall cleanup and repair. Let's take a look at that as the next step in our process.

Repair and Cleanup in Layers

If you still shoot film, have tried to convert old photos to digital, or have ever had a dirty sensor or lens, you will be no stranger to minor imperfections in your images that come in the way of dust and debris. Digital shooters may not see as much dust as they see other minor imperfections in their images, like litter, crumbs, fine spider webs, random leaves, cigarette butts, etc., but they might also see annoying and persistent spots resulting from dust on the sensor.

You can often make quick work of dust and minor debris issues, no matter where it comes from, by applying the Clone Stamp and/or Healing tool directly to an image background. However, applying these corrections to a blank layer offers much more flexibility, and maintains non-destructive editing goals. Once you are sure the correction is the way you want it, you can commit the change by merging the layers, or just leave them in separate layers (the latter is suggested). The advantage here is that if you muff up part or all of the correction, you still have the opportunity to fix it. You also have the opportunity to use tools in combination with one another such as using both the Clone Stamp and the Healing tool for a correction.

The pears in the Sample_2.3.psd image (see Figure 2.24) have some obvious imperfections that need to be taken care of. One large dent in the middle of the three pears obviously needs some fixing, but there are smaller dings, bruises, and even minor annoyances like slightly larger pores that could be evened out. This is taken care of with simple layered repair.

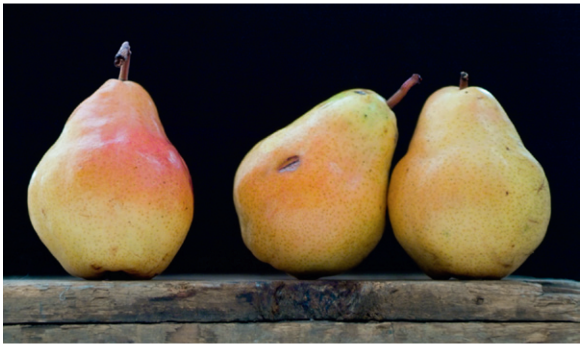


FIG 2.24 This image has a few challenges when using Clone Stamp and Healing tools for correction, as well as some opportunity for interesting choices about what needs to stay and what needs to go

Try It Now: Clone Stamp and Healing Repairs in Layers

1. Open the Sample_2.3.psd image in Photoshop.
2. Create a new layer above the Background and call it **2 – Clone Stamp.**
3. Create a new layer above the *2 – Clone Stamp* layer and call it **3 – Healing**. See Figure 2.25 for how the layers should look at this point.
4. Activate the Clone Stamp layer by clicking on it in the Layers palette. Choose the Clone Stamp tool and set the options to Sample All Layers – if you don't, the tool will not stamp to a blank layer. Apply the tool to make a correction of the damaged areas.

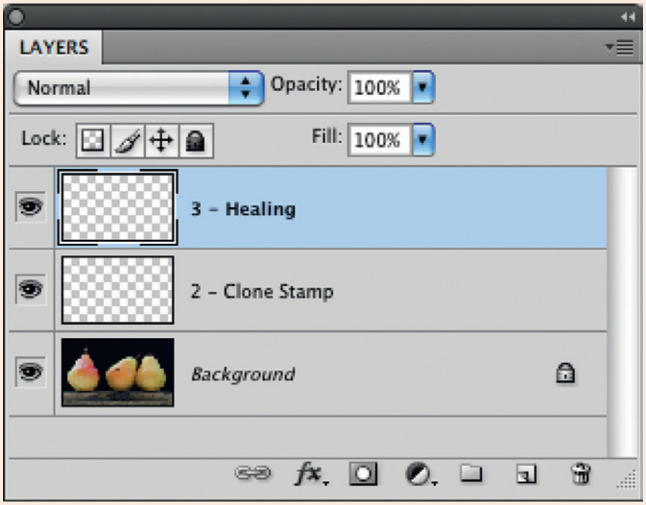


FIG 2.25 You have a total of three layers, Background, 2 – Clone Stamp, and 3 – Healing. So it wouldn't get in the way for the purposes of the exercise, the levels correction was merged with the Background

Applying the Clone Stamp Tool

To apply the Clone Stamp, note the color and shape of the damaged area and try to find a spot in the image that will make a good replacement. Set the brush size to just slightly larger than the width of the problem area, and use 50–80% hardness (leaving a soft edge to blend corrections). Usually I set the tool to Aligned (check the box), which keeps the alignment angle and distance between the brush and the sample point constant. Sample the area you will be using to replace the damage by holding down the Option/Alt key and clicking on the area you want to sample from. Move the brush over the damage and apply by holding down the mouse button. It is best to apply the Clone Stamp in short bursts, and it is a good idea to resample from different areas as you work often to avoid obvious patterning and to blend in texture, contour, and detail from multiple directions. Doing so will help create unique corrections of the areas. When using the Clone Stamp and Healing tool together, the Clone Stamp application does not need to be exact, but making a best effort will improve the result.

Activate the Healing layer by clicking on it in the Layers palette, and then choose the Healing tool. Set the brush and Options like you did for the Clone Stamp, but make the brush 100% hard – the nature of the tool blends in the edges and does so better if you use a hard brush. Make a sample and apply the tool to make a second correction over areas corrected with the Clone Stamp to blend in the corrections.

The resulting image can be seen in Figure 2.26, and you can check your work against the Sample_2.3-corrected.psd image from the downloads. In the corrected version of the image, I included a black-filled layer (**4 – Show Fixes**) that can be turned on to reveal the cloning and healing changes at a glance (represented in Figure 2.27). In the layers, I created a group for the clone stamp and healing layers so that you can shut off either view for clone stamp or healing, or both at the same time (using the group).

Applying the Healing tool directly to a problem can lead to similar results, but it has been my experience that applying the Clone Stamp first to neutralize the ugliest part of the damage and then applying the Healing tool will yield better results (less noticeable edges) more consistently.

The most difficult parts of Healing and Cloning corrections is damage near edges – where there is a transition to another object, color, or tone.

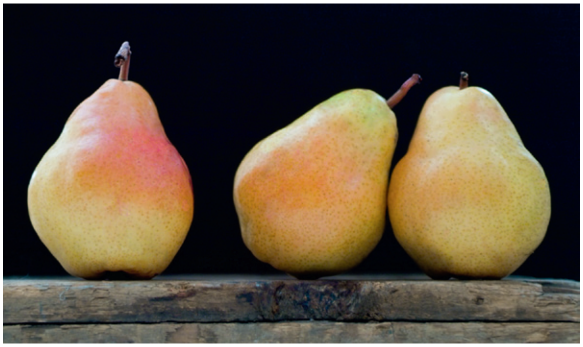


FIG 2.26 The corrected pears have a more regular and attractive appearance with the flaws mitigated

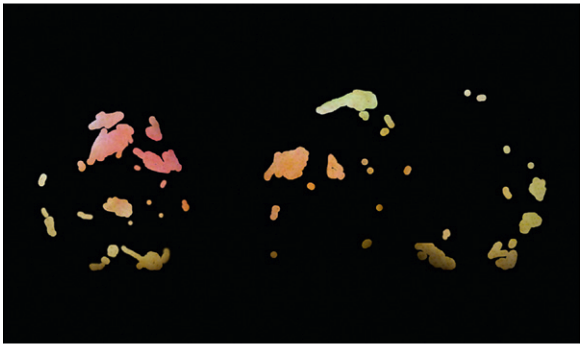


FIG 2.27 This may look like a lot of correction, but you can see that it is not so extreme by toggling the correction group

The problem will be that the Healing tool tries to do too much: it pulls in too much surrounding image information in the repair that it tries to make. There are two things you can do to eliminate this problem:

- Use only the Clone Stamp near edge areas.
- Heal along the edge by sampling right on the edge line (see Figures 2.28 and 2.29).

Following these techniques you can make freehand corrections to any image in infinitely different ways, each equally as convincing. Check your handiwork by toggling the view for the Cloning and Healing correction layers. You may want to group them so you can toggle the view as a group. This will let you compare before and after with a click.

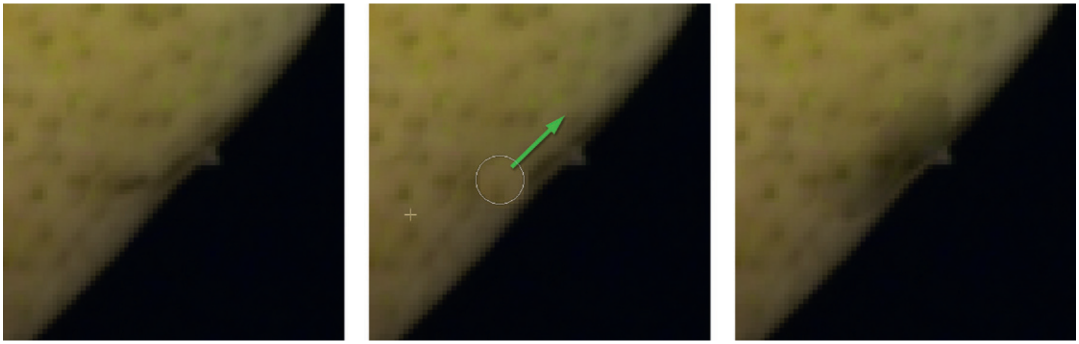


FIG 2.28 If you use the Healing brush, sampling from an object and applying the sample near the edge, the correction can bleed in color and tone from the surrounding area

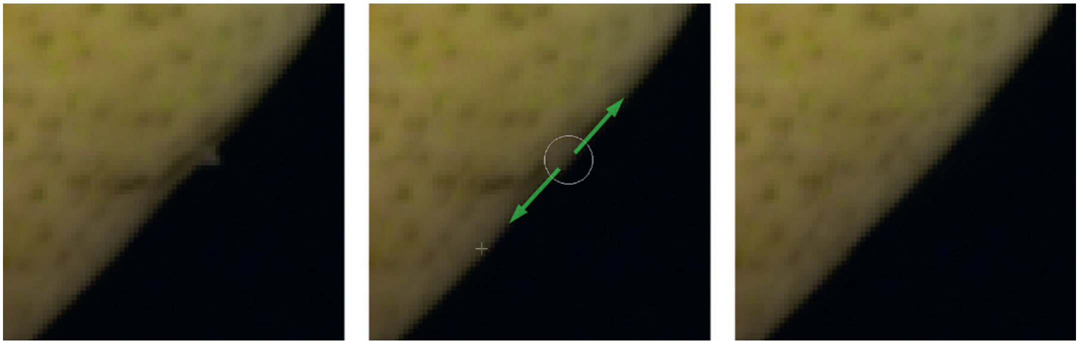


FIG 2.29 A better method for using Healing on an edge is to sample the edge and apply along the edge

Summary

In this chapter we have begun to use Layers to actually make a difference in image appearance, first with adjustment layers, then with blank layers and the Cloning and Healing tools. These correction techniques are things you will use in nearly every image to some extent. Thinking about your images and your corrections as made up of separate, layered adjustments is the key concept that should be coming across here. Layers offer opportunities for isolated correction. Separation poses advantages while making the change, as well as having additional advantages once the correction has been created, in that it can be changed later.

These steps are just a starter. When using the whole process, you will make a unique plan for what you would like to see in this image, and it will almost always include these adjustments. Practice with the changes is helpful; even practice thinking about how you will make corrections (and specifically what corrections you want to make) will help make you become better at applying changes and choosing techniques.

A valuable thing to do with the information in this chapter is to begin applying the changes to your own images. Choose one or more of your images and test out selective enhancements using layers. You don't have to do everything from this chapter to every image, but you should make an attempt to try out everything to see how the techniques might apply to your corrections:

A. Open your image and think about the corrections you might make as an evaluation.
B. Start a correction by making a Levels Adjustment layer to correct image color.
C. Fine-tune color and remove color casts with Color Balance.
D. Locate some image area(s) that you want to improve with simple Cloning and Healing corrections, and create new layers to help you incorporate the change. Then stamp out and heal problem areas.

Keep in mind that working with additional images can be an exercise without a real goal of achieving improvement in the image: it is enough to perform the techniques as exercises or practice. Do, however, make serious corrections if they are warranted in your images to exercise the true value of layers.
If you have additional questions about the techniques, visit the forums at photoshopcs.com to discuss how to use the techniques and ask questions.

Targeting Change by Isolation and Masking

After you have made general corrections in your image, you will want to move to more specific adjustments. These adjustments target change to smaller portions of the image that still need some work after global change. Changes can target color, tone, objects and/or image areas. How you handle the targeting really depends on what you want to accomplish.

Most people will probably look first to selection as a prominent tool for selective change, but with some experience you can improve the adjustments by working with area and object isolation and masking. These techniques and concepts give you an advantage for obtaining superior results in selective, targeted correction. Selection does not become superfluous, but it is a means to developing the isolation and masking rather than being used as a solitary and primary tool. Selection enables isolation and masking, providing a means of achieving better flexibility and blending with your adjustments.

The Adobe Photoshop Layers Book.

© 2012 Richard Lynch. Published by Elsevier Ltd. All rights reserved.

Methods of Isolating Change

Adding Layer Content	Content in new layers affects (by mode) what is below in the stack.
Layer Opacity	The opacity of layers adjusts the intensity of how a layer affects content below.
Layer Mode*	This will allow you to vary the means by which an upper layer combines with layers below, effectively masking how layer changes are applied.
Selection	Selection masks changes so that the selection defines the active area of active layers. Changes can be applied only within the selection.
Layer Masks	Layer masks hide and reveal portions of the layer they are associated with. Black hides, white reveals, and gray hides as a percentage gray or as a semitransparent mask. Channels store layer masks and selections, and can become selections and masks themselves.
Adjustment Layer Settings	Settings on the Adjustments palette for various types of Adjustment layers allow users to target effects based on such things as color or tonal range.
Layer Clipping	Clipping groups mask the content of a group based on the solidity of the bottom layer in the group.
Layer Styles*	Blend If (conditional blending), Knockouts, channel targeting

**We'll look at these in more depth later in dedicated chapters.*

Not only is each of the isolation methods useful in its own right, but they can be used in many combinations to help simplify defining a result. While there are many ways to target content in an image, some of the most useful will be by isolating content (selection, copy, paste), masking with freehand masks, and masking with tone. We look at each of these concepts in this chapter.

Isolating Image Objects

Isolating image objects is simply moving objects to separate layers so the objects can be controlled individually. The basic idea of isolating objects in your image is as easy, conceptually, as making a selection of an image area and then copying and pasting that image area to its own layer. The ability to create the isolation and execute it in a controlled way can give you enhanced control over image composition.

To complete basic isolation of an object, you will use any one of the selection tools – or a combination of them – to create a selection. Once the selection is created, you can copy the content of your selection to the clipboard (press Command+C/Ctrl+C (Mac/PC)) and then paste it back into the image (press Command+V/Ctrl+V). Photoshop will automatically make a layer and insert the content from the clipboard. Other methods, such as Command+J/Ctrl+J (New Layer Via Copy) or Command+Shift+J/Ctrl+Shift+J (New Layer Via Cut), will also work to create the new layer from the selected area. The method of getting the area selected is less important than getting the area isolated on its own layer.

With the object isolated, you will be able to target changes more easily to that area. Because of the isolation, you will be able to do this in a variety of ways, using additional layers or using later techniques that we will explore, such as clipping groups, masking, modes, or Blend If conditional adjustments. Isolating a single element in an image is relatively simple, and it can open the door to many other image changes. Sometimes it will be desirable to take apart an image into a variety of smaller components for the sake of correction and/or composition changes. Although it may seem that taking an image apart object by object can be a pain, it is not something you will do with every image, and when you do it will more often be for a single object than for multiple objects in any image.

Figure 3.1 shows a still life of some pears that we looked at briefly in the last chapter. This image was shot on the spur of the moment. There were probably about 20 images in the series, and admittedly it didn't seem any of them represented what was desired – as sometimes happens. Though I didn't get exactly what I wanted, it seemed I had enough source that it would be just as easy to alter what I had, as to create what I wanted making some changes to the composition.

To make the desired changes I broke the image down into several components to handle separately: the background, the foreground wood, the wood plateau, the two pears to the right, and the pear to the left. Ultimately the pear to the left was eliminated by the change, simplifying the image and breaking a commonly held rule that you want to have objects grouped in odd numbers. I borrowed color from the pear that went missing, and stems were borrowed from other images. The breakdown of steps to re-create the image and the resulting layers are shown in Figures 3.2 and 3.3.

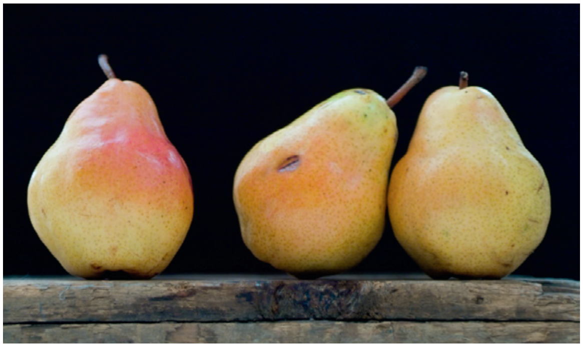


FIG 3.1 The original shot of some pears on an old crate. It seems too crowded, and begs experimentation. With plenty of source shots, it is possible to combine images to get what you want by borrowing from others. This shot needs a little help

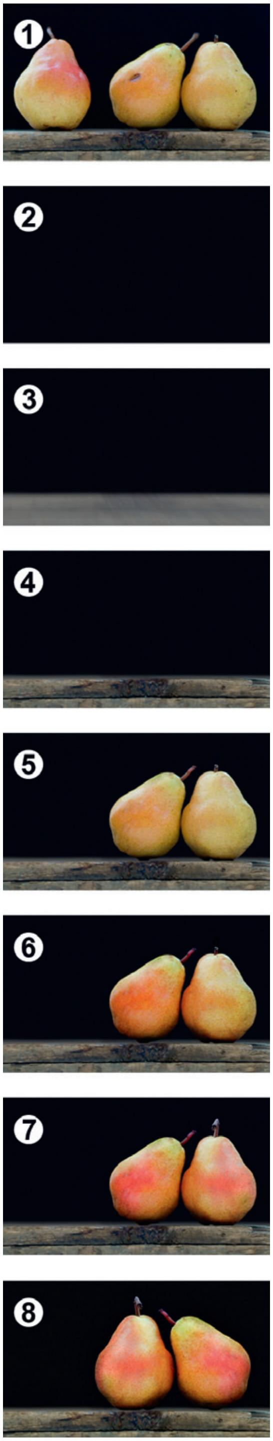
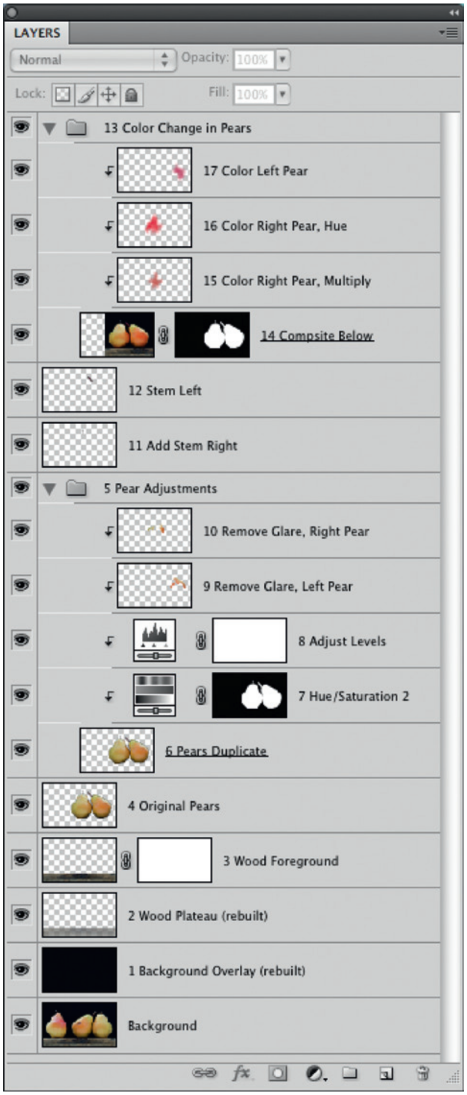


FIG 3.2 (1) the original, (2) a new background, (3) fabricated wood top, (4) copied wood face (with repairs), (5) two pears isolated, (6) pear pair enhanced, (7) pear pair recolored, and (8) two pears flipped and positioned



13 Color Change in Pears
17 Color Left Pear
16 Color Right Pear, Hue
15 Color Right Pear, Multiply
14 Composite Below
12 Stem Left
11 Add Stem Right
5 Pear Adjustments
10 Remove Glare, Right Pear
9 Remove Glare, Left Pear
8 Adjust Levels
7 Hue/Saturation 2
6 Pears Duplicate
4 Original Pears
3 Wood Foreground
2 Wood Plateau (rebuilt)
1 Background Overlay (rebuilt)
Background

FIG 3.3 The actual layers used in the adjustment, roughly reflecting the numbered steps in Figure 3.2. Some of the steps take several layers to complete. More advanced techniques included here, such as clipping and masking, will be looked at a bit later

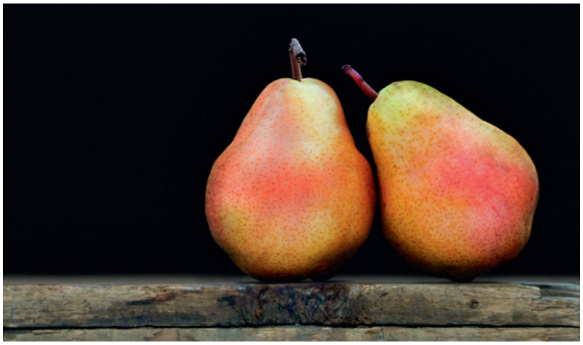


FIG 3.4 The final result is cropped, color corrected, patched, and reorganized using the power of layers

You will rarely go to such lengths as rebuilding an image to get the result you want as shown here, but you may see a key here in getting what you need, and part of the advantage provided by layers. The separation of objects goes one step further than merely selecting the object and copying/pasting it to its own layer. Once the object is isolated in its own layer, you can put yourself in position to have ultimate control of the composition by removing traces of the object in other layers. Figure 3.4 gives an idea of what you might be trying to do.

A key point about making this type of composition adjustment is the difference between photography in the 3D world and the resulting 2D image. In your photography, you can remove an object from a scene by just moving it out of the camera's view, and the background fills the space. When you isolate an object in an image in Photoshop layers, the layer from which you plucked the object either still contains the object or has a hole where it was. The background doesn't magically reappear when the object is removed. Making the repair to patch the hole left behind can be more difficult as the complexity of the background increases. But to build some confidence in the strategy, let's look at how it applies to the sample image.

It isn't as ridiculous as it may first seem to expect the background to fill in. I remember a student once asking about flipping an image to see a cat's face (the picture was of the cat's rear). The real confusion there is the student was projecting common 3D experience into a 2D world. If he turned the cat around, he would certainly see the cat's face. Modern technology (like virtual camera movement) may aid in fostering such ideas. The 2D world is something that needs to be learned.

Try It Now: Isolating Objects with Copy and Paste

1. Open Sample_3.1.psd from the download images.
2. Choose the Polygon Lasso by pressing L on your keyboard (or Shift+L to scroll the Lasso tools), or choose the Polygon Lasso from the toolbar. Change the settings on the Options bar to Feather 0 Pixels, and check the Anti-alias box.

Feather and Anti-alias are both means of softening the edge of the selection and do not usually need to be used together. Softening the selection either way will tend to blend the edges of selections with the surrounding area rather than making hard, noticeable edges.

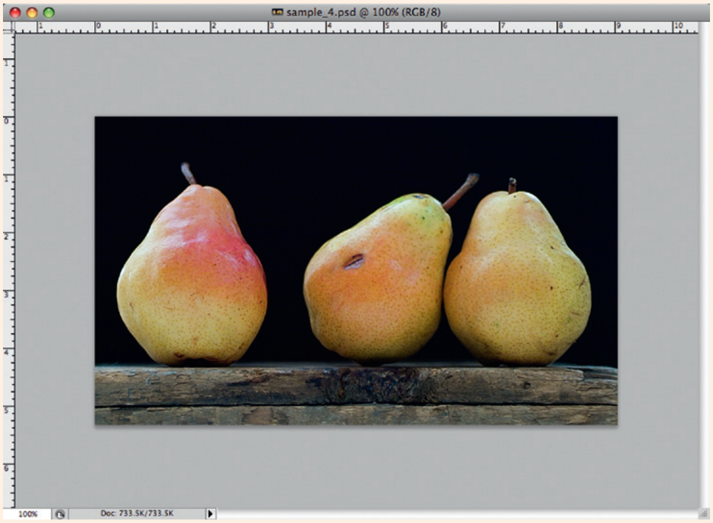


FIG 3.5 Depending on your Photoshop version and setup, you may have to float the image window before resizing. To resize, choose Window>Arrange>Float in the Window menu. When the image is floating, click and drag the image window controller at the lower right of the image to make the document window larger

3. Expand the image window so you have some room around the edge of the image to apply the tool (Figure 3.5).
4. Make a selection of the wood facing. To do this click outside of the image to the left, then move the cursor and click right at the top of the facing at the edge of the image. Continue moving and clicking across the top of the facing, following the contour of the wood. When you reach the right side of the image, click outside the image, then outside and below the lower right corner of the image, then outside and below the lower left corner, and then on the starting point to complete the selection (see Figure 3.6).
5. Activate the Background by clicking it in the Layers palette; then Copy and Paste to create a new layer with the wood facing. Name the new layer **2 Wood Facing**.
6. Activate the Background layer again. Create a new layer and fill with black (choose Edit>Fill, and set Content to Black). Call the new layer Black Background.
7. Shut off the view for the Black Background layer so you can see the pears.
8. Select the Polygon Lasso tool again, and use it to follow the contour of the two pears to the right of the image. To do this, use short segments between clicks (see Figure 3.7). You can use other selection tools if you feel more comfortable. The goal is to make a selection so that you can isolate the pears.

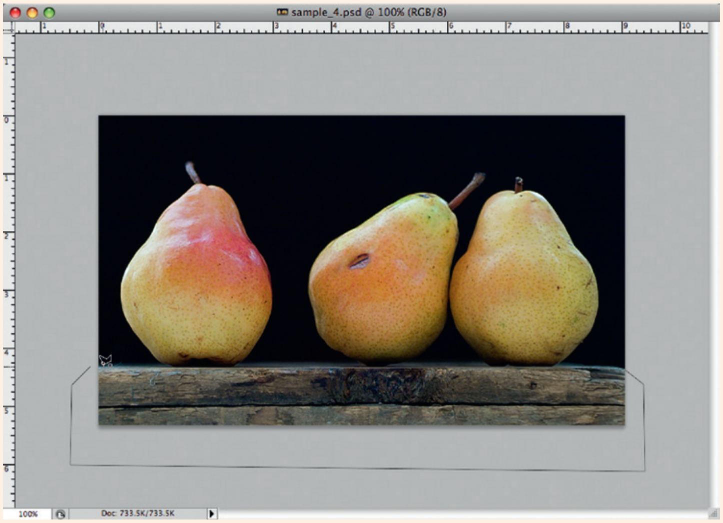


FIG 3.6 Going outside the boundaries of the image with a selection tool (as shown here) will make sure you select tightly to the edge of the image

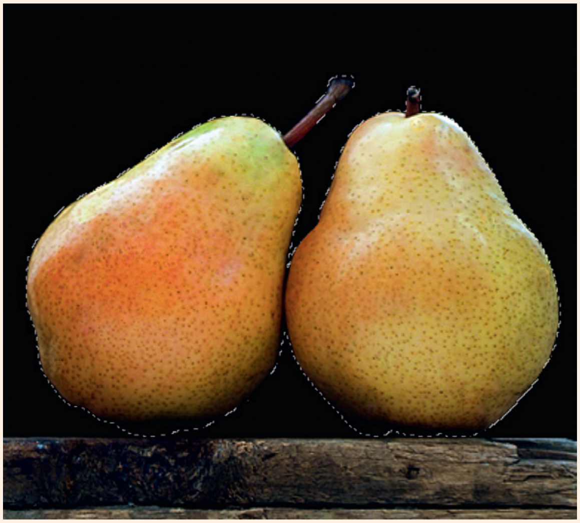


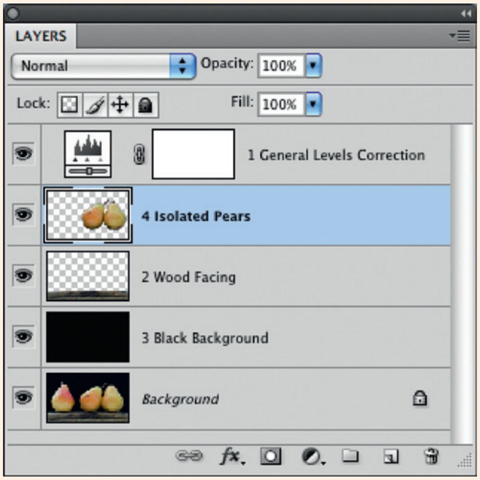
FIG 3.7 Using short segments with the Polygon Lasso can make a selection that is rather smooth and is fine for the purpose of this exercise

9. With the selection in place, activate the Background layer, then Copy and Paste. This will create a new layer with the pair of pears. Name the new layer **4 Isolated Pears**.

Technically you will not have to make an incredibly tight selection around the part of the pears that is over a background that has very little character, but try to make the selection as tight as possible. The black background is simple, and any fringe on the selection will easily blend in.

10. Move the *4 – Isolated Pears* layer above the *2 – Wood Facing* layer in the layer stack, and turn on the view for the Black Background layer. The layer stack should look like the content of Figure 3.8.

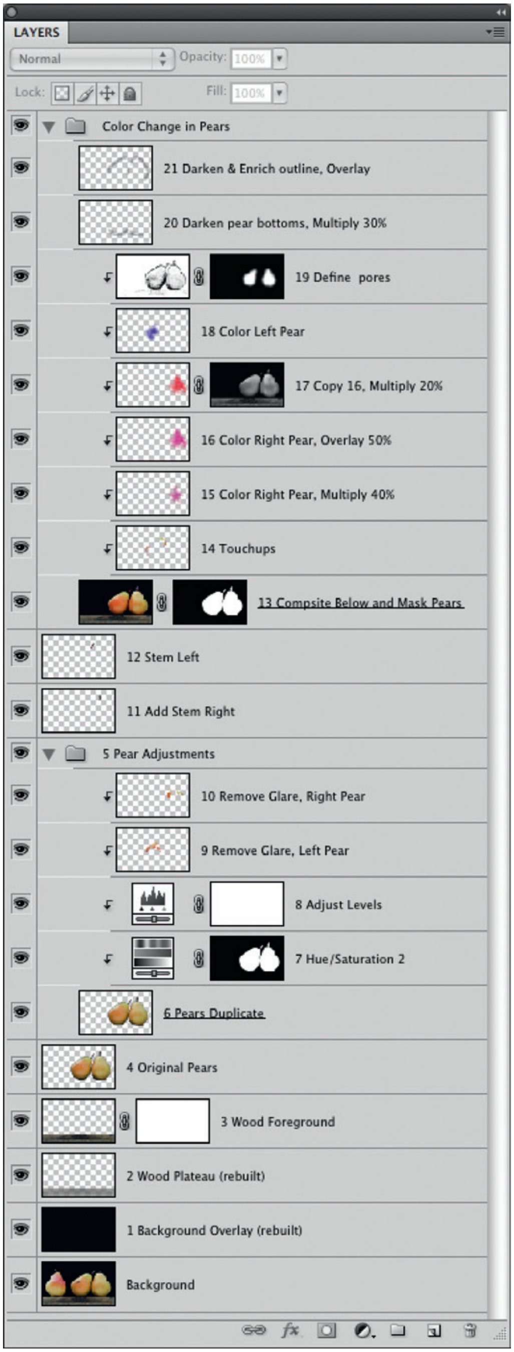
FIG 3.8 In a few quick steps, the components of this image are isolated into separate layers



This simple example of object isolation gives you the freedom to move objects in the image and change the composition. Using the Move tool, try placing the pears in a different position, or even flip the pears horizontally (Edit>Transform>Flip Horizontal).

The basics of re-creating the pear image require isolating each of the image areas and/or replacement of those areas with suitable substitutes. The additional effort of re-creating the image proves more fruitful than trying to do something such as stamp out the pear on the left with the Clone Stamp. It would be painstaking to fill in the area behind the pears using the Clone Stamp and make associated repairs look right. It is worth trying to make the Clone Stamp correction to see what I mean. Inevitably it would look uneven, blotchy, and repaired. Re-creating the entire black background from scratch does several things, including providing the opportunity to remove any distracting imperfections from the black background. It is also a lot quicker.

Of course rebuilding as per this quick example is not absolutely perfect but it serves the purpose of the exercise. We could build back in the wood platform and add noise to the background to make it appear even more like the original. In Figures 3.9–3.11, I used quite a few different types of layers, some which will not be apparent by the screenshot of the Layers palette alone. Some of the layer changes employ Modes (which we will look at in Chapter 5) and more than one includes a mask or clipping group, which we will look at in the next exercise.



LAYERS

Normal

Opacity: 100%

Lock:

Fill: 100%

- Color Change in Pears
  - 21 Darken & Enrich outline, Overlay
  - 20 Darken pear bottoms, Multiply 30%
  - 19 Define pores
  - 18 Color Left Pear
  - 17 Copy 16, Multiply 20%
  - 16 Color Right Pear, Overlay 50%
  - 15 Color Right Pear, Multiply 40%
  - 14 Touchups
  - 13 Compsite Below and Mask Pears
- 12 Stem Left
- 11 Add Stem Right
- 5 Pear Adjustments
  - 10 Remove Glare, Right Pear
  - 9 Remove Glare, Left Pear
  - 8 Adjust Levels
  - 7 Hue/Saturation 2
  - 6 Pears Duplicate
- 4 Original Pears
- 3 Wood Foreground
- 2 Wood Plateau (rebuilt)
- 1 Background Overlay (rebuilt)
- Background

FIG 3.9 The Layers palette shows the corrections used to achieve the image in Figure 3.10. Separating the objects actually made it easier to address the issues in the image and adjust the composition

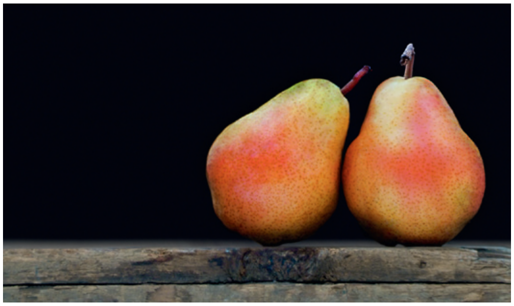


FIG 3.10 Regardless of whether you prefer the result here or the original, this is a marked difference in many ways from the original shot and it is the possibilities you want to embrace

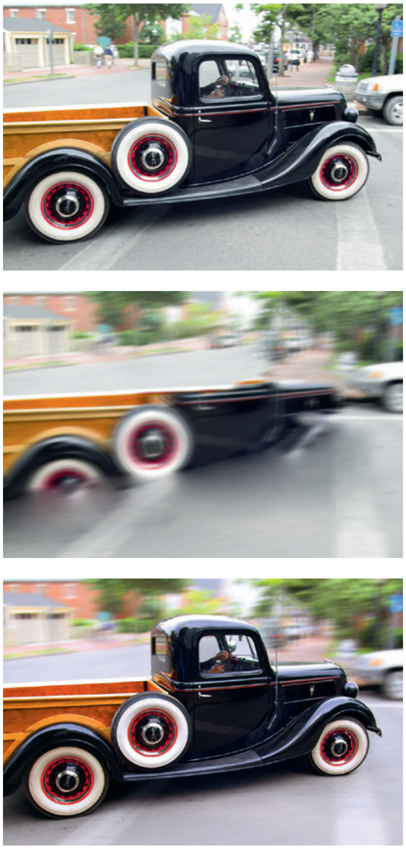


FIG 3.11 This car zipped in front of me on Nantucket, and I tried to get the camera in place and follow the action. I got the car, but wanted the background to have less influence. Separating the car and patching the background allowed me to create a more convincing blur

The point of the exercise in object isolation is to look at the potential benefit and freedom it gives you with corrections. You can, with diligence, take images apart object by object to achieve goals in editing. Figure 3.11 shows a before, during, and after series of an image where I used copy/paste to isolate an object in an image to create a motion effect. It was a spur-of-the-moment image, and I had no time to adjust my camera settings. I wanted more blur in the background. I isolated the foreground object to achieve that.

Isolation by Freehand Masking

Previously, we looked at using Layers to isolate image corrections and target changes. That covered the idea of applying corrections via separate layers, using Adjustment layers, and isolating image objects on their own layers. This section looks at layer masking to create flexibility when adjusting isolated objects.

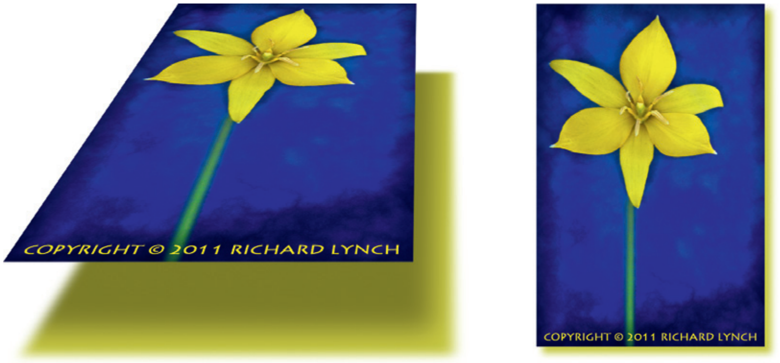

COPYRIGHT © 2011 RICHARD LYNCH
COPYRIGHT © 2011 RICHARD LYNCH

FIG 3.12 The layer acts as a mask by hiding what is below it in the stack

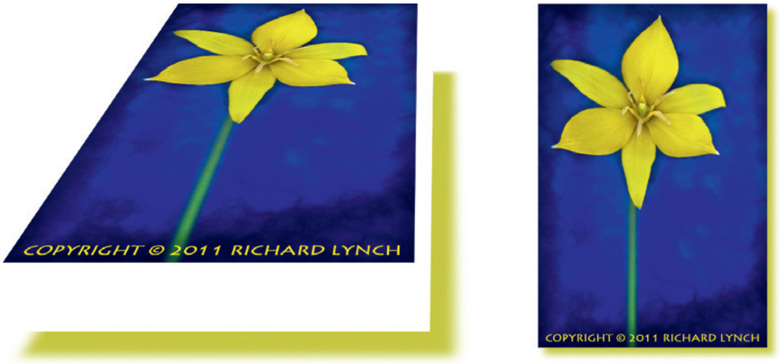

COPYRIGHT © 2011 RICHARD LYNCH
COPYRIGHT © 2011 RICHARD LYNCH

FIG 3.13 Cutting out the content of the shadow layer would achieve the same result, but makes it so you have to rebuild content if you move the masking layer above

Masking provides unique opportunities in making corrections flexible. Simply put, masking blocks off areas of an image from change or hides them from view. It is similar to masking off woodwork when you go to paint a room or masking windows and chrome when you go to paint a car. Masking is different from erasing image areas, as erasing is permanent (destructive) removal; using masks hides pixels temporarily and is non-destructive. One of the most basic types of masking is something we did in the exercise at the end of Chapter 1. In that exercise we used a duplicate of the Background layer to mask the Drop Shadow layer (see Figure 3.12).

More sophisticated means of masking are comparable to the simple masking we explored in that early exercise, but with more finesse. All types of masking share the same concept: masking blocks image content from view without removing or destroying that content; it is unlike erasing, which is permanent and destructive (see Figure 3.13).

The basic way to apply a mask is using a layer mask and manually defining the content. Black in the mask hides content and white allows content to be revealed. Levels of gray in a mask partially hide content based on the percentage of black: for example, 66% gray masks 66% of the opacity of the content.

The Hit List for Sample_3.2.psd

1. Clean up pollen and dust specks.
2. Reduce any significant digital noise.
3. Enhance the natural color and tone.
4. Add soft focus to go with the softness of the image.
5. Add color enhancements (paint in color).
6. Sharpen to enhance contrast.

One of the problems with the example from Chapter 1 is that there really wasn't much of a goal defined beyond creating the mask to see how masks work and are applied. To use masks effectively to accomplish something in an image is quite another thing entirely. Often you will want to shape masks to accomplish a specific purpose within your plan for corrections. That being the case, it is a good idea to start corrections by evaluating an image and deciding what you need to accomplish before doing extra work to achieve the goals.

Using sample_3.2.psd from the downloads, a developed hit list of corrections you intend to make for this image, roughly conforming to our general outline, might look like this.

Though the image is not a terribly good capture, when all is said and done, this image will have gone through enhancement to bring out what is lurking there. The result will be something like Figure 3.14.

Instead of working through the whole image, let's look at the desired corrections in the context of masking and layer application. We can do this by exploring the goal of reducing noise, adding soft focus, and painting in color.

The most offensive area of noise is in the background – all of the areas surrounding the foreground object. There are several ways to reduce noise in your images; probably few of them are obvious beyond the Reduce Noise filter. The filter is *not* your best option.

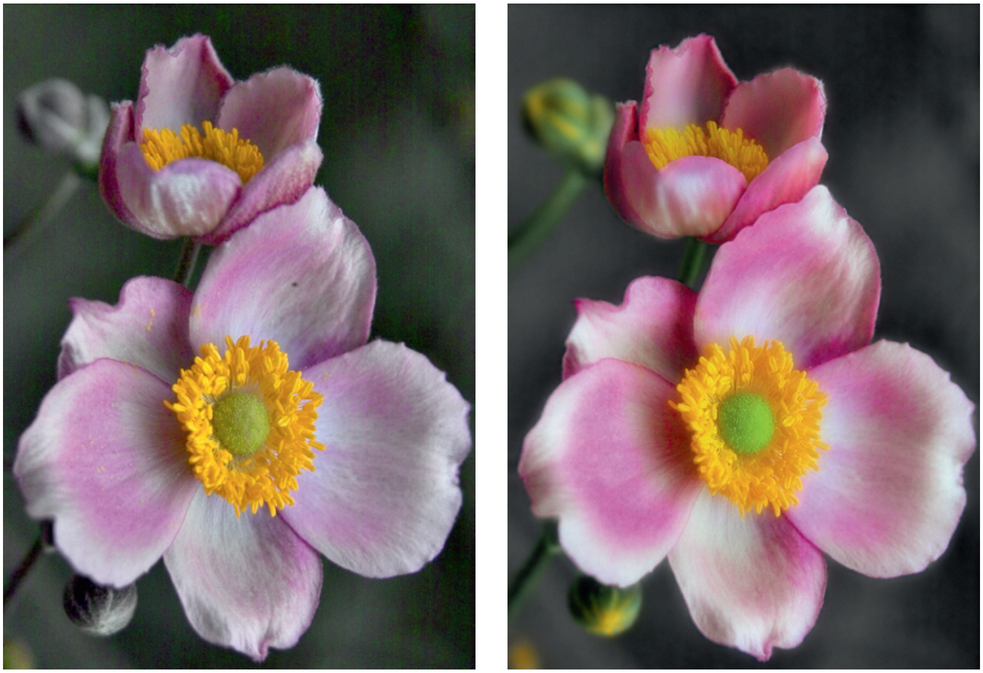


FIG 3.14 The result of correcting this image as per the defined list leaves it remarkably similar to the original capture in composition, but greatly enhanced as per the focus of the hit list

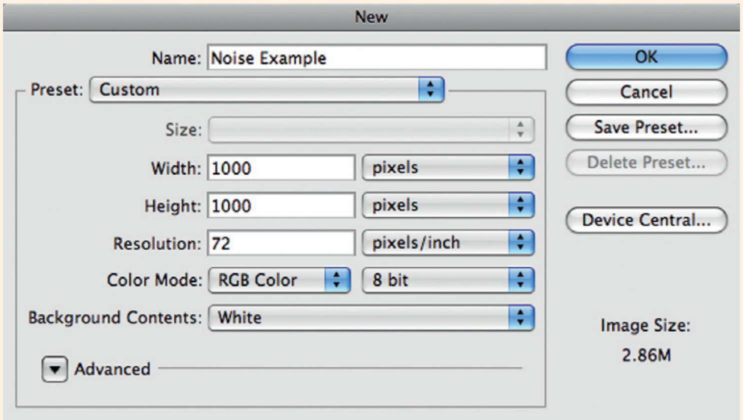
Reducing Image Noise

Image noise can come in different varieties, from simple and virtually invisible minor variations in light capture to grotesque, grainy, miserable problems that totally ruin an image. Usually the latter is something brought on by extreme processing, like using a high ISO or a very long exposure, and leads to enhancing flaws in the capture.

One of the key factors to keep in mind when addressing noise is that noise is just the opposite of blur. If you want to reduce noise, you can apply blur to mediate it. At the same time, color and surface textures are not perfect. If you blur too much, you can make objects and areas that you are curing of noise instead look like they are phony and fixed, and may lead to a blurry image. A little addition of noise can also help to mediate the result.

Try It Now: A Quick Noise Example

1. Open a new blank image (choose File>New). Be sure the image is RGB and 1000 × 1000 pixels. After choosing your settings for the new file, click OK. (For settings see Figure 3.15.)

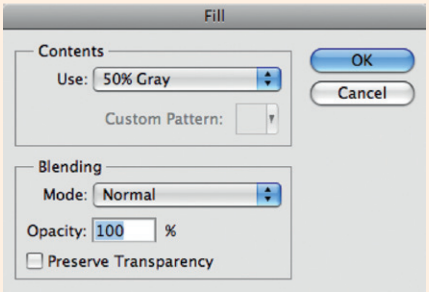


Name: Noise Example
Preset: Custom
Size:
Width: 1000 pixels
Height: 1000 pixels
Resolution: 72 pixels/inch
Color Mode: RGB Color 8 bit
Background Contents: White
Image Size: 2.86M

FIG 3.15 Match the settings here in the New dialog to create a new image for the quick noise example

2. When the image opens, fill with 50% gray. Use the Fill function (Edit>Fill), and select 50% Gray from the Use drop-down list. Leave the Blend Mode at Normal and the Opacity at 100% (see Figure 3.16). Click OK.
3. After the fill, apply some noise to your image with the Add Noise filter (Filter>Noise>Add Noise). When the Add Noise dialog opens, make the Amount 10% and the Distribution Uniform. Leave the Monochromatic box unchecked. When you have completed the settings (see Figure 3.17), click OK on the dialog. Your image will fill with noise.

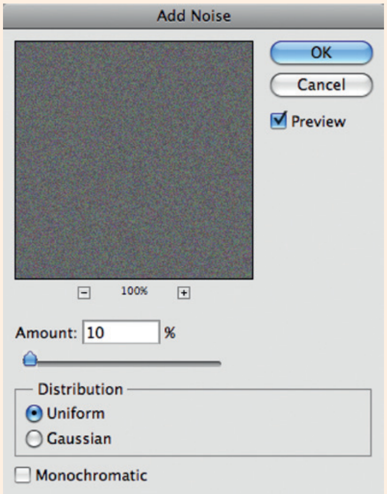
FIG 3.16 Match the settings here in the Fill dialog to fill the image with 50% Gray



Contents
Use: 50% Gray
Custom Pattern:

Blending
Mode: Normal
Opacity: 100 %
☐ Preserve Transparency

FIG 3.17 Match the settings here in the Add Noise dialog to fill the image with noise



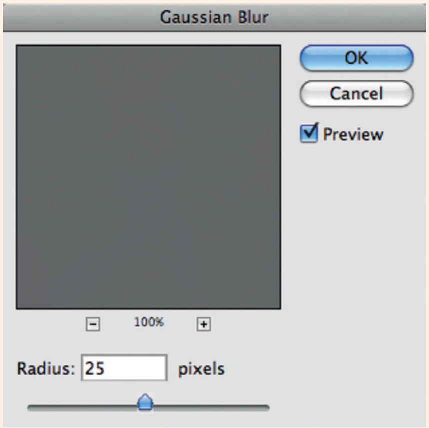
☑ Preview
Amount: 10 %

Distribution
● Uniform
○ Gaussian

☐ Monochromatic

4. Now open the Gaussian Blur filter dialog (Filter>Blur>Gaussian Blur). Set the Radius for the filter to 25 pixels and click OK. This will mediate all the noise you added in step 3, and you'll be back to flat gray, eliminating the noise (Figure 3.18).

FIG 3.18 Match the settings here in the Gaussian Blur dialog to blur and moderate the noise in the image



☑ Preview
Radius: 25 pixels

The example shows how you might obliterate noise with blur. However, applying blur to everything in your image will obliterate detail as well as the noise. Often you'll need to be selective about just what to blur. That's why we'll mask the noise reduction in the image. Go ahead and close the Noise Example image without saving.

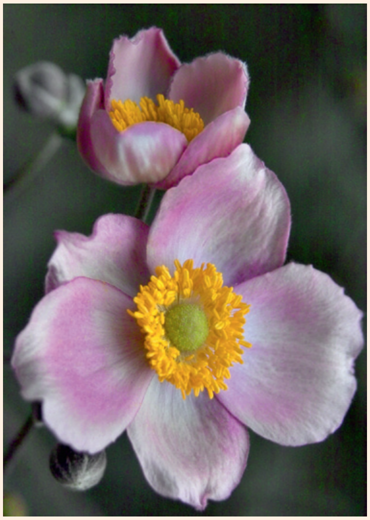
The following example assumes you have completed the correction of minor annoyances so we can focus on layers and masked changes. I have provided the image with the dust and obvious detail problems corrected, but you may want to take the opportunity to practice cleaning these areas up using the Clone Stamp and Healing layer techniques discussed in the previous chapter. You can probably get everything done here with cloning or healing, but you can set up the two-layer technique if you want. Just shut off the view for the correction layer I provided, and make your own. If you need more detail or to review the techniques, please see the exercise in the previous chapter.

The focus of this next example is to create a mask with a distinct purpose. In this case, we'll be creating a manual mask to target a noise reduction change to the area outside the flowers. Once the mask is created, we can use it in several different ways to refine the area it defines.

Try It Now: Reducing Image Background Noise

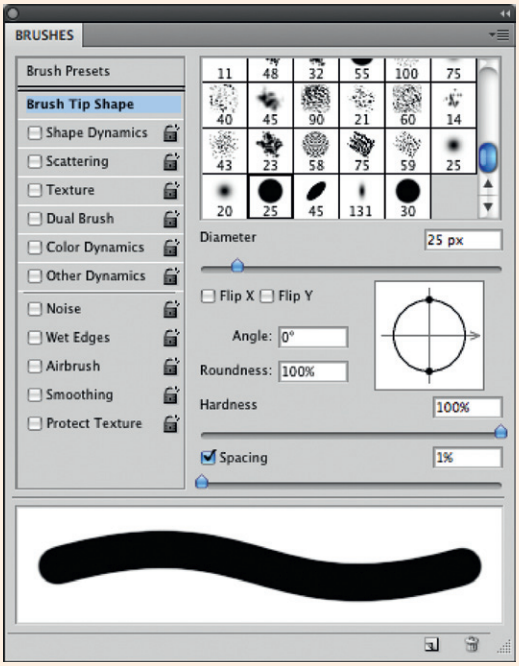
1. Open the sample_3.2-example.psd file provided in the downloads. It will look like the content of Figure 3.19.

FIG 3.19 Similar to the image from Figure 3.14, this version has some of the minor corrections taken care of so we can focus on masking the noise



2. Create a new layer above the Healing/Clone Stamp layer(s), call it Manual Masking, and number it accordingly. This exercise assumes you have used one layer for healing/cloning, so it will be named **2 – Manual Masking**. This layer will be the canvas for defining the mask you will create in the following steps.
3. Choose the Brush tool and press D on the keyboard to set the default colors (the foreground will be black). When the tool is selected use either the Brush Preset Picker (on the Options bar) or the Brushes palette (Window>Brushes) to choose your brush. Be sure the brush you have selected is round, 100% hard, and 100% opaque, and turn off all brush dynamics (see Figure 3.20). Use a brush about 40 pixels in diameter.

FIG 3.20 This brush will be used to outline the mask you are creating



BRUSHES

Brush Presets

Brush Tip Shape

☐ Shape Dynamics
☐ Scattering
☐ Texture
☐ Dual Brush
☐ Color Dynamics
☐ Other Dynamics
☐ Noise
☐ Wet Edges
☐ Airbrush
☐ Smoothing
☐ Protect Texture

Diameter: 25 px

☐ Flip X ☐ Flip Y

Angle: 0°

Roundness: 100%

Hardness: 100%

☑ Spacing: 1%

4. Begin applying the brush to the image to outline the petals (see Figure 3.21). You want to get pretty tight to the petals to create a solid outline. Most of your movement will be freehand, but short line segments can often be easier to control. To create line segments, hold down the Shift key and click then move the cursor (still holding the Shift key) and click again. A straight line will be drawn between the point of origin and the second click. Complete the outline (see Figure 3.22). This outline is the edge for your mask.

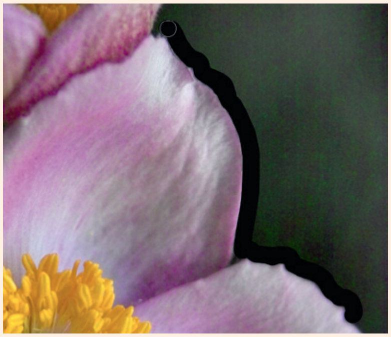


FIG 3.21 You can start anywhere, carefully following the edge of what you are selecting

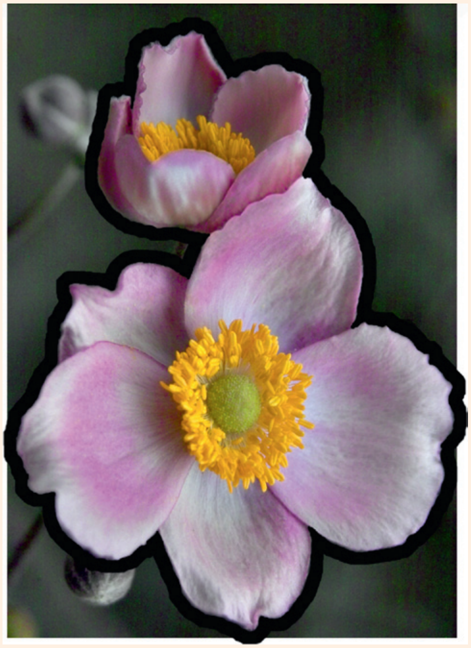


FIG 3.22 You may not always be able to complete a circuit as you can here, but the idea would be the same: creating a dividing line between what you want to select and the rest of the image

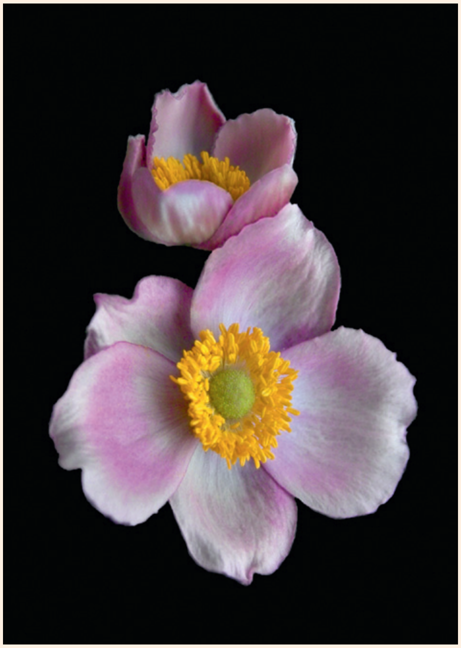
5. Choose the Magic Wand tool. In the tool options, set the Tolerance to 10, check the Anti-alias box, check the Contiguous box, uncheck Sample All Layers, and be sure the *2 – Manual Masking* layer is active. With all that done, click on the flowers. This will select the area inside the black outline you created.
6. Expand the selection (Select>Modify>Expand) by half the diameter of the brush selected for step 2 (e.g., 20 pixels if you used a 40-pixel brush). This will push the selection into the center of the outline you created.
7. Invert the selection (Command+Shift+I/Ctrl+Shift+I (Mac/PC)) and then Fill with black. This will invert the selection so it is over everything but the flower petals and will fill the area around the flowers with black (see Figure 3.23).

Tip

Brush size can be changed with keyboard shortcuts. Increase brush size with the] key, and decrease brush size with the [key.

Note that duplicating the *2 – Manual Masking* layer is a precaution and an advantage. If something goes wrong with the correction and you need to go back to the original mask, you do not want to have to redo the mask as it is probably the most labor-intensive part of this type of adjustment. You could rely on the image History to return to the mask, but only if you want to revert all the changes, and only if you have not gone too many steps forward from the initial definition of the mask. You could use History Snapshots to freeze image states and return to them during the editing session, but History states are not very fluid, and you have to be cautious when juggling states, or you risk losing steps you want to keep. Juggling content between History Snapshots also requires additional steps to retrieve. Simple duplication of the original mask layer keeps the original mask template readily available while allowing changes on a copy.

FIG 3.23 The black area defines the shape of your mask



8. Deselect by pressing Command+D/Ctrl+D.
9. Duplicate the *2 – Manual Masking* layer and rename it **3 – Dupe Manual Masking Blurred and Desaturate**. You will use this duplicate layer to make additional refinements to the mask. Keeping Layer 2 as is allows you to return to that original mask without having to redo it if something goes wrong with the adjustments.
10. Change the mode of the *3 – Dupe Manual Masking...* layer to Color, and apply a Gaussian Blur to soften the edge (I used 3.5 pixels for the blur radius in the example). The change in the mode will neutralize color noise by desaturating the area under the mask, because you are effectively applying black as a color. The blur will soften the edges and ensure that the changes based on this mask will blend in smoothly at the edges of the petals.
11. Shut off the view for the *2 – Manual Masking* layer. Shutting off the view will reveal the content under the *2 – Manual Masking* layer.
12. Be sure the layer *3 – Dupe Manual Masking...* is active, and capture a composite by pressing Command+Option+Shift+E/Ctrl+Alt+Shift+E. The shortcut will create a new layer above *3 – Dupe Manual Masking...* with the current visible content collected. Name the new layer **4 Composite**.

13. Hold down the Command/Ctrl key and click on the layer thumbnail for *3 – Dupe Manual Masking*. . . . This will load the solid area of *3 – Dupe Manual Masking*. . . as a selection.
14. Activate the *4 – Composite* layer, and duplicate the selected area to a new layer (Command+J/Ctrl+J will do the trick). Name the new layer **5 – Copied Masked Area from 4 Composite**. This will isolate just the desaturated area of the image into its own layer.
15. Duplicate the *5 – Copied Masked Area*... layer, and name it **6 Duplicate of 5, blur and noise**.
16. Group the *6 – Duplicate of 5*... layer with the *5 – Copied Masked Area*... layer by pressing Command+Option+G/Ctrl+Alt+G. This makes a Clipping group from the layers. The solid portion of the base layer in a clipping group acts as a mask.
17. Apply a Gaussian blur of 6 pixels to the *6 – Duplicate of 5*... layer, and then apply Add Noise at 2% using Gaussian distribution. Your layers should look like the content of Figure 3.24.

The blurring will soften the area around the flowers, mitigating the noise, and the Add Noise application will help rough up the texture of the area again so it is a better fit to the rest of the image and the texture of a photo.

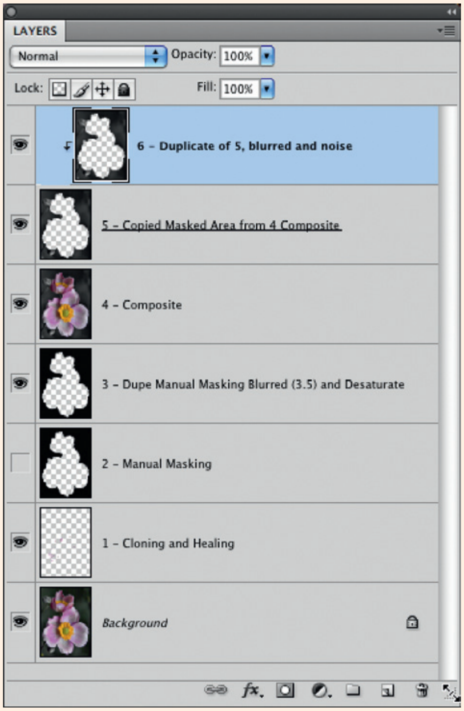

Normal
Opacity: 100%
Lock:
Fill: 100%
LAYERS
6 – Duplicate of 5, blurred and noise
5 – Copied Masked Area from 4 Composite
4 – Composite
3 – Dupe Manual Masking Blurred (3.5) and Desaturate
2 – Manual Masking
1 – Cloning and Healing
Background

FIG 3.24 Successfully completing the steps will leave you with this layer configuration

Composite Layers

Composite layers are useful in certain circumstances to either provide a point to freeze your changes as a culmination of previous layers, or provide image information to enable additional changes. What composite layers do is collect whatever is visible in the image into a new layer to make the content actual rather than virtual.

To capture the composite layer, make sure the image shows exactly what you want to capture in the composite (you may need to toggle layer views); then create a new layer and press Command+Option+Shift+E/Ctrl+Alt+Shift+E. Pressing these keys will stamp the visible content to the new layer. Usually you will want to rename the new layer with an appropriate name!

Sometimes you will capture the composite of the entire image with all of the layers on to have a point to move forward from cleanly after making a lot of changes. Other times, such as in this example, there are specific layers to take a snapshot of. Because a mode was applied to the *3 – Dupe Manual Mask* layer, it only appears desaturated because of the calculation the layer performs: there is no layer that actually has the desaturated content. Making a composite allows you to regroup the image information in one place and commit it to tangible pixels. When you have gathered image information in a composite, blurring will affect the desaturated masked area directly and in isolation from the rest of the image.

Tip

Remember this compositing technique as another means of organizing content in layers! It is frequently a handy technique.

In the initial steps, you create a template for the mask. Then you use that template for a variety of purposes, from storing the selection and mask, to isolating color and shape for corrections in the later steps. Making the Clipping group out of Layers 5 and 6 contains the blur to the shape of the content in the base layer of the clipping group: like a mask, the content of layers above the base layer in the clipping group just falls away and is hidden, rather than allowing the blurred edges to bleed into the petals. Applying blur softens the noise, and adding noise back roughs up the blurred image area so it doesn't seem unnaturally smooth. The result should show a slightly softer peripheral area with greatly reduced noise (see Figure 3.25).

Tip

Noise, Blur, Sharpen, and Offset are the only filters I use with any regularity.

You may wonder why not just blur Layer 5 and get it over with ... well, you can always try it to see if there is a difference. In this case there may not be much of a difference, except on the very edge of the petals. You can see this by ungrouping Layer 6 and toggling the view. Layer 5, serving as a mask, contains the effect, where just blurring would allow the effect to bleed onto the petals and blur whatever sharpness is there.

The main concept to keep in mind here is in using layers to isolate image area(s) that you want to affect. Here we used manual masking techniques, selection, and clipping layers to achieve isolated effects. A secondary

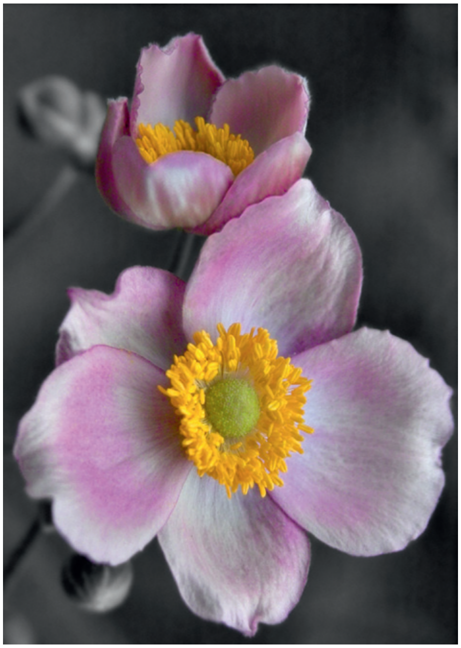


FIG 3.25 After the steps, your result should have greatly reduced noise

concept is that Blur and Noise filters can work well together in reducing the appearance of noise in your images and maintaining a realistic appearance.

Again, you will want to retain this image so we can continue making corrections. The next to-do on the list suggests some targeted color enhancement. Color enhancements for this example image come in two types: enhancement of natural color, as we looked at with targeted Levels and Hue/Saturation adjustments, and enhancement by addition, both of which we'll look at in the following sections. The former, targeted adjustment by color range, is something that you can accomplish in a wide variety of ways, but we'll be deploying Hue/Saturation to targeting color range and define the change. The latter, color addition, is not terribly easy to do well without some consideration, and layering. Now let's look at enhancing natural color.

Enhancing Natural Color

After dealing with the noise, we'll step back to what should be a more familiar area of Levels corrections. You want to apply a Levels correction as an Adjustment layer masked to the flowers to make the most of the color and tone as captured and balance the color and light. As you have already defined the mask, applying it is easy. A second part to this color enhancement will be using Hue/Saturation to emphasize and control colors in the flower.

Try It Now: Targeted Levels Correction Using Adjustment Layers and Masks

1. Command+click/Ctrl+click the *3 – Dupe Manual Masking* layer thumbnail to load the layer as a selection again. Invert the selection (Command+Shift+I/Ctrl+Shift+I). The inverted selection targets the flower.
2. Be sure Layer 6 is active and choose Layer>New Adjustment Layer>Levels from the program menus; when the New Layer dialog appears, name the layer **7 – Levels Correction for Flowers** and click OK. The Levels layer will be created above Layer 6, with a mask that targets the flowers using the selection loaded in step 1. Make your best effort in the Levels correction (consulting the instructions from the previous chapter if you need to). I reduced the saturation of the layer to 50% to moderate the change.
3. Choose the Eyedropper tool (press I), and set the Sample Size option on the Options bar to 5 by 5 Average. The settings for the Eyedropper affect samples we will be making in later steps on the Hue/Saturation dialog.
4. Command+click/Ctrl+click the *3 – Dupe Manual Masking* layer again to load the layer as a selection. Invert the selection (Select>Inverse). This selects the flowers again.
5. Choose Layer>New Adjustment Layer>Hue/Saturation. Move the Saturation slider to +10. This creates a Hue/Saturation Adjustment layer targeted to the flowers and saturates the colors that already exist in the flower. Name the layer **8 – Flower Saturation**.
6. Choose Magenta from the Edit drop-down list on the Hue/Saturation dialog. We are going to work a little more with the petal color in a particular color range, and this is the first step in narrowing the range.
7. Click in the image over the pink area of the petals. Then click the Add to Sample eyedropper on the Hue/Saturation dialog. This tool will adopt the settings you chose for the Eyedropper and allow you to adjust the color range selected in the Hue/Saturation dialog. Click-and-drag the sampler across one of the flower petals (see Figure 3.26). This will select the color range for the petals.
8. Drag the Saturation slider to the right until the pink area of the image is just about to burst with color. I chose +20 for Saturation and +4 for Hue. We will be softening the look a bit, so making the color strong is OK as it will be moderated.

Tip

Setting the Sample Size for the Eyedropper affects the way sampling tools behave on other tool dialogs.

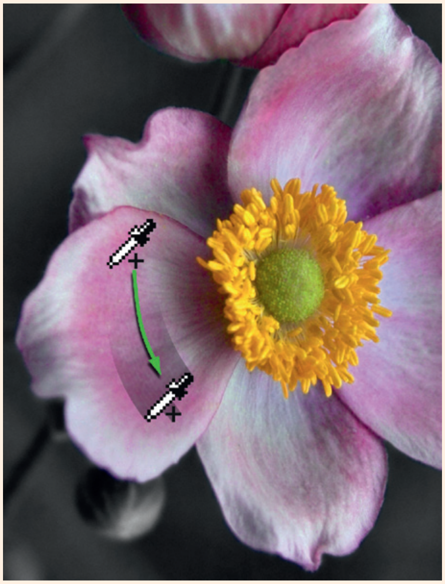


FIG 3.26 Click-and-drag the sampler to choose a color range

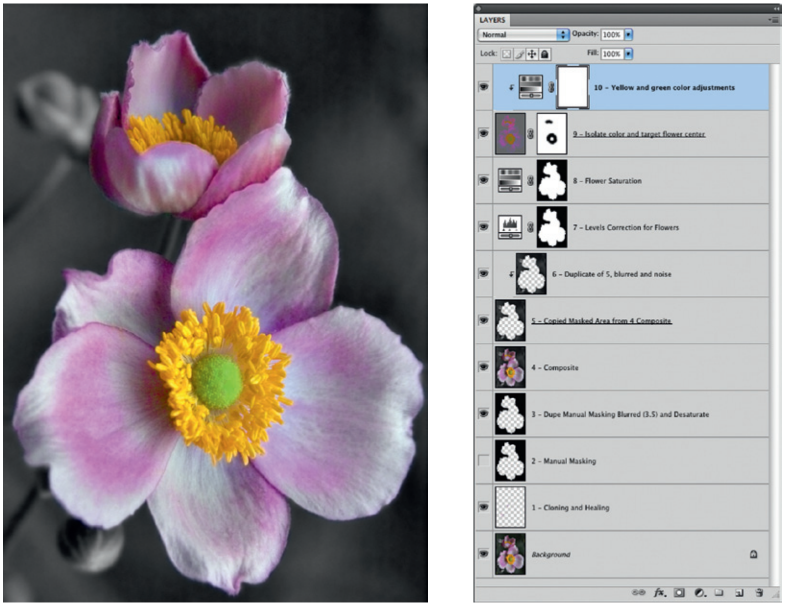
The Hue setting of +4 was merely a preference, but checking a range of hues by moving the Hue slider should tell you how successful your range selection was for the petal color.

This Hue/Saturation technique can be used in combination with masking and color range selections, making it a very versatile tool. You might, for example, consider making a change to the center of the flower by choosing another color to edit on the Hue/Saturation screen, creating another range using the sampling tools, and making an adjustment. You may need to combine this with additional masking to achieve the result you are looking for (Figure 3.27 explores options for targeting change in the center of the flowers). If you set the color range and make a hue adjustment, and it changes other parts that you don't want it to, you can easily block the changes by adjusting the mask.

Masking in this case allows you to make a change and then localize the change to the area you want to correct. This is just a small hint as to the enormous power of masking. Color can also be applied freehand, which itself is a type of masking, similar to freehand masking, but delivered by freehand strokes on a blank layer as we'll see in the next section.

Freehand Color Enhancements

In this image, adding some muted color to the additional objects in the scene – like the stems and buds in the background – will make them seem less distant, and more a part of the image, while giving the image a little more dynamic overall look. We'll take a look at this color addition and how to do it with layers by painting in color enhancements.

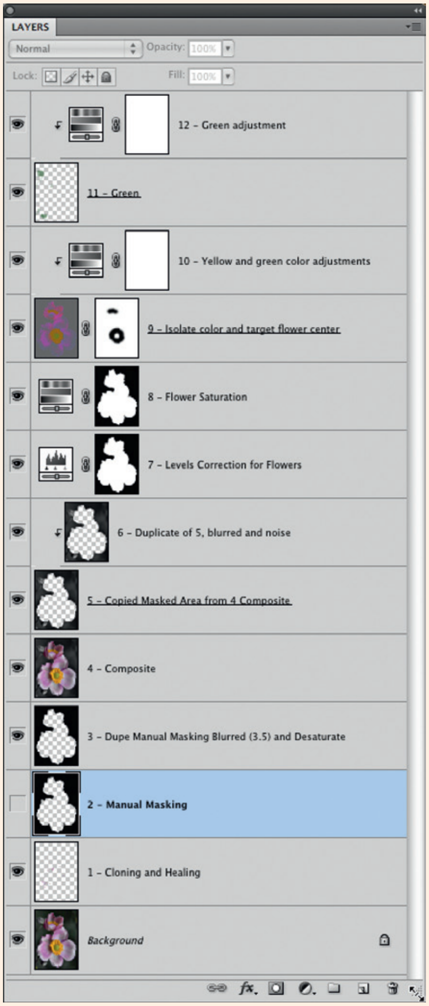

LAYERS
Normal
Lock:
10 – Yellow and green color adjustments
9 – Isolate color and target flower center
8 – Flower Saturation
7 – Levels Correction for Flowers
6 – Duplicate of 5, blurred and noise
5 – Copied Masked Area from 4 Composite
4 – Composite
3 – Dupe Manual Masking Blurred (3.5) and Desaturate
2 – Manual Masking
1 – Cloning and Healing
Background

Opacity: 100%
Fill: 100%

FIG 3.27 Targeted adjustment to the color can affect just the center of the flower

Try It Now: Adding Handpainted Color Effects

1. Create a new layer at the top of the layer stack and call it **11 – Green**.
2. Choose the Paintbrush tool and a small soft brush, then double-click the foreground color swatch on the toolbar and choose a green (I chose RGB: 15, 120, 20). Lower the Opacity of the brush to 50%. A 50% brush opacity will be only partially opaque and will layer color as you apply it. Applying over the same area more than once darkens the color and yields density changes that may prove pleasing in the final result.
3. Paint on the *11 – Green* layer over the areas of the image that should be green. I painted over the buds and stems to the left. Don't worry about the coverage being 100% or whether it is completely even – in fact you may not want it to be (see the comments after the exercise).
4. Apply a Gaussian Blur to the layer, just a few pixels (five or so). This will smooth out and blend in the color.
5. Set the layer to Color mode and adjust the Opacity until it seems pleasing.
6. Add a Hue/Saturation layer as a Clipping layer grouped with the *11 – Green* layer and name it **12 – Green adjustment**. By moving the Hue slider you can try variations on the color to see if there is a shade you like better. Your layers should look like the content of Figure 3.28.



Normal

Opacity: 100%

Lock:

Fill: 100%

12 – Green adjustment

11 – Green

10 – Yellow and green color adjustments

9 – Isolate color and target flower center

8 – Flower Saturation

7 – Levels Correction for Flowers

6 – Duplicate of 5, blurred and noise

5 – Copied Masked Area from 4 Composite

4 – Composite

3 – Dupe Manual Masking Blurred (3.5) and Desaturate

2 – Manual Masking

1 – Cloning and Healing

Background

FIG 3.28 **The image should be substantially improved at this point just following the outline and defining the changes in layers**

Handpainting Color

Color addition is not so simple as you might expect at first. If you pick a color and apply it to a layer in color mode, the results may surprise you. It may appear more or less rich than you expect. The problem is usually that the color is not appropriate for the area of tone where you are applying it. It is good to be aware that color will appear richer over areas of tone that are closer to 50% gray. Over white or black, color will not appear at all. If you pick a dark color and apply it to a light area of tone, it is more likely to come out looking pastel!

By repeating these steps for adding green in additional layers, you can add other colors, and create a more interesting and varied result. Adding a new layer for each color lets you control Opacity, Mode, and Blur separately. For example, in this image I used yellow to create some highlights on the buds; blue complements may have worked as well. You can experiment with adding color on multiple layers, using different layer modes and brushes. With brushes, I often use the Fade control and other brush dynamics for size to taper brush strokes and apply other randomizing brush effects when colorizing. Whereas the layers themselves are acting as masks by locating color where the brushes are applied, layer masks can help confine and clean up brush strokes after the fact. There is a lot of room for creative application of color, so experimenting is key to seeing what you can accomplish.

With most of the selective change complete in the image, it is time to finish up by looking at global effects to add that final definition. Effects like soft focus and sharpening can be the polish that sets off an image. We'll look at these effects in the context of this image and area isolation in the following section.

Isolating Change by Masking Tone

Selective adjustment is best done with a specific purpose, and this will often mean using the content of the image itself to influence changes rather than working freehand. There are advantages at times to isolating change to a specific area of brightness, ways to pluck out and enhance contrasts, and means to conditionally adjust image content.

There are several excellent features in Photoshop used for targeting change based on color and tone, and it may be the obvious choices again that are not your best ones. For example, the feature I use most often for selecting image highlights is the RGB Channel in the channels palette. By holding down the Command/Ctrl button on your keyboard and clicking on the RGB channel thumbnail, you can load the brightness of your image as a selection. This is an enormously powerful tool for targeting change to highlights or shadows, but it is also not at all obvious from the interface, and unless you've done some diligent reading you might otherwise never know it exists. Later on in this section we'll look at a mysterious feature called Blend If that cannot be accessed other than through a panel on the Layer Styles dialog that is nowhere to be found without a little digging.

We'll look at these features for targeting tone change in the context of the example image and complete our shortlist of layered adjustment.

Extracting Brightness to Add Soft Focus

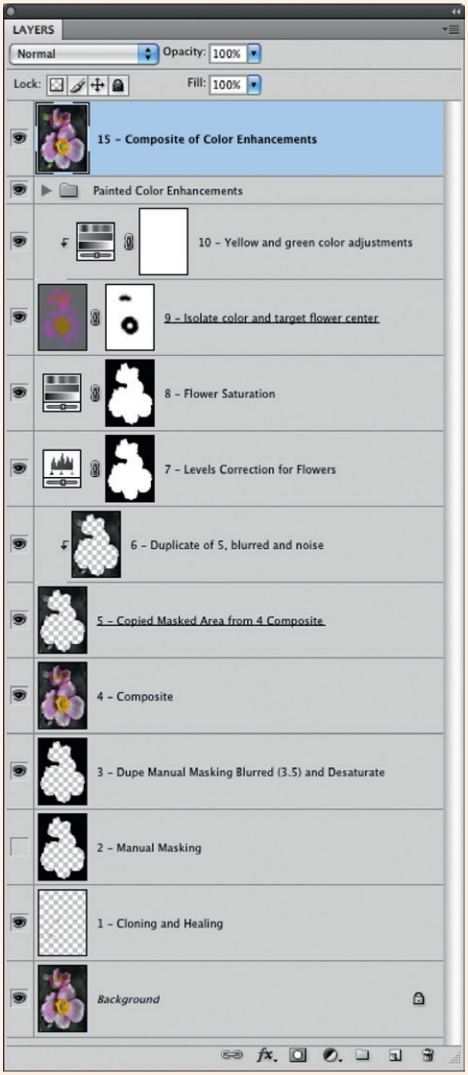
Whereas there are certainly parts of this image that are in focus, the very shallow depth of field, intentional blur of the background, and lighting make the nature of this image a little soft. I find it is usually better to go with the flow and not try to force a softer image to pretend to be tack sharp. There are ways to make this image look sharper, but enhancing the soft focus may be more natural and helpful in making this particular image look its best.

Soft-focus effects are achieved photographically by scattering light. Soft-focus filters and soft-focus lenses help achieve the effect, and similar effects can be had by using a UV filter and smearing the outer edge with Vaseline (leaving the center of the lens clear). The latter may seem like quite a sloppy solution, but the reasoning is all the same: disburse some of the light passing into the lens and diffuse it. Note you are disbursing only some of the light: if you disburse all of the light the image would just get blurry.

The logical solution for creating soft-focus effects after the image has been captured is to isolate content based on brightness and then copy that to its own layer and blur. After applying the effect, use layer modes and opacity to refine the effect you want. The effect is enabled in the following exercise by isolating and blurring the image brightness.

Try It Now: Isolating Highlights to Create a Soft-Focus Effect

1. Create a Composite layer at the top of the layer stack and name it **15 – Composite of Color Enhancements** (see Figure 3.29).



15 – Composite of Color Enhancements
Painted Color Enhancements
10 – Yellow and green color adjustments
9 – Isolate color and target flower center
8 – Flower Saturation
7 – Levels Correction for Flowers
6 – Duplicate of 5, blurred and noise
5 – Copied Masked Area from 4 Composite
4 – Composite
3 – Dupe Manual Masking Blurred (3.5) and Desaturate
2 – Manual Masking
1 – Cloning and Healing
Background

FIG 3.29 I've grouped the green, yellow and blue color additions in a layer group in the sample

2. Load a selection of the image brightness using the RGB channel: hold down the Command/Ctrl key and click on the RGB channel in the Channels palette.
3. Copy the content of the *15 – Composite...* layer to a new layer using the selection you just loaded. Copy and Paste will work, as will Command+J/Ctrl+J. Name the new layer **16 – Dupe 15, Blurred 30, 40%**.
4. Blur the content of the *16 – Dupe 15...* layer using Gaussian Blur and a radius of 30 pixels. This will turn the image to a horrible blurry mess – however, making it a horrible mess is not the immediate goal.
5. Lower the opacity of the *16 – Dupe 15...* layer to 40%.
6. Duplicate the *16 – Dupe 15...* layer and change the mode to Softlight; then name the layer **17 – Dupe 16, Softlight**. Increase the opacity to 100%. This added layer will enhance the soft-focus effect. Your layers should look like the content in Figure 3.30.

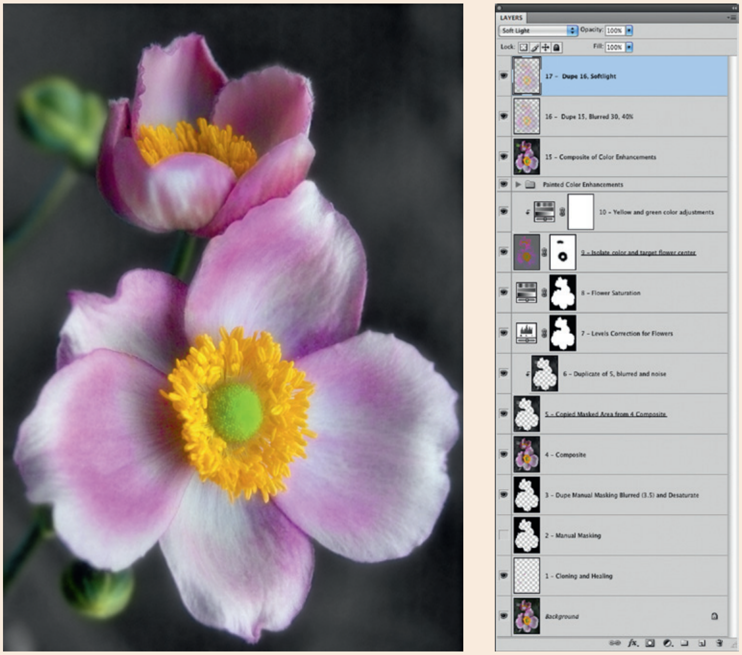

Soft Light
Opacity: 100%
Fill: 100%
17 – Dupe 16, Softlight
16 – Dupe 15, Blurred 30, 40%
15 – Composite of Color Enhancements
Painted Color Enhancements
10 – Yellow and green color adjustments
9 – Isolate color and target flower center
8 – Flower Saturation
7 – Levels Correction for Flowers
6 – Duplicate of 5, blurred and noise
5 – Copied Masked Area from 4 Composite
4 – Composite
3 – Dupe Manual Masking Blurred (3.5) and Desaturate
2 – Manual Masking
1 – Cloning and Healing
Background

FIG 3.30 The Softlight mode is employed to increase the contrast and compensate for some of the dynamics lost in the blur. You can control this effect further by making adjustments to the layers you added using Opacity or Modes, increasing/decreasing the amount of blur, or adding masking

Try toggling the views on and off for the *16 – Dupe 15...* and *17 – Dupe 16, Softlight* layers just to see the difference before and after the soft-focus addition. You can also compare before and after for the whole process (see the Before and After sidebar). Comparing before and after the soft-focus effect should show you a harder more edgy image before, and a softer, glowing, color-rich image after.

Before and After

There are several different ways to compare before and after when working on a series of corrections in an image.

Methods of Comparing Before and After

1. Toggle off the views for all layers other than the Background layer. To do this, you can click and drag the cursor over the Layer Visibility Indicators in the Layers palette.
2. Put the layers you want to toggle off in a group and toggle the view for the group. This is useful when there are a lot of layers to toggle at once and click-and-drag is too clumsy.

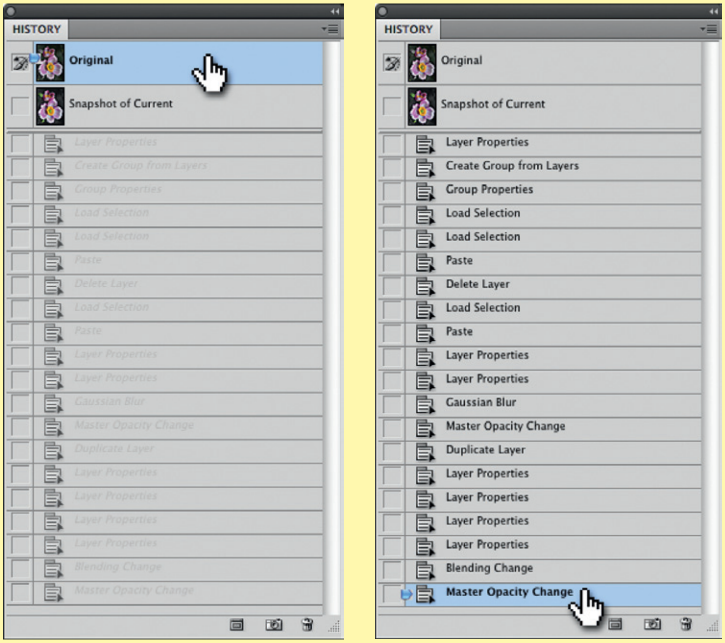

HISTORY
Original
Snapshot of Current
Layer Properties
Create Group from Layers
Group Properties
Load Selection
Load Selection
Paste
Delete Layer
Load Selection
Paste
Layer Properties
Layer Properties
Gaussian Blur
Master Opacity Change
Duplicate Layer
Layer Properties
Layer Properties
Layer Properties
Layer Properties
Blending Change
Master Opacity Change
HISTORY
Original
Snapshot of Current
Layer Properties
Create Group from Layers
Group Properties
Load Selection
Load Selection
Paste
Delete Layer
Load Selection
Paste
Layer Properties
Layer Properties
Gaussian Blur
Master Opacity Change
Duplicate Layer
Layer Properties
Layer Properties
Layer Properties
Layer Properties
Blending Change
Master Opacity Change

FIG 3.31 Creating a snapshot before experimenting with History states assures you will be able to get back to the state your image was in. One wrong move, and your work could be gone

3. Use the History palette to toggle between the original and the current state of the image by clicking the appropriate states in the History to undo/redo changes. Click the default Snapshot at the top of the palette to return to the original state and the last item in the History to return to the current state (see Figure 3.31). It may be best to take a History Snapshot before juggling the History states.
4. Duplicate the Background layer and drag the duplicate to the top of the layer stack. Name it Before, and toggle the view as needed.
5. Use Layer Comps to define versions of the image. This is handy if the before/after you want to compare is not the opening state of the image, or if you have several versions to compare.

Any of these methods will work for comparison, depending on how you like to work and how you use layers; some methods may prove convenient at different times, as noted.

With the soft focus effect isolated, we can still work on other tone and color effects. Usually one of your last steps in an image is Sharpening.

Sharpen and Enhance Contrast

The name *sharpening* suggests actions taken to make an image appear to be more in focus. That is what sharpening does. Sharpening is meant to enhance edge contrast and detail *that already exist in an image*. If an image is utterly out of focus, soft and blurry, then there are no strong edges, nothing to sharpen, and applying some means of sharpening may actually end up making the image look worse...depending on how the sharpening is applied and at what strength. The goal of sharpening is never to snap an out-of-focus image into sharpness.

What Sharpening Does Well

- Enhances the appearance of sharpness already in an image, to make it appear even sharper.
- Enhances edges in images that are going to print to help counteract dot gain (by which ink bleeds into the paper and softens images).
- Enhances existing contrast.

Potential Negatives of Sharpening

- Causes edges to exhibit haloing, in which edge contrast is enhanced too much and appears to create a glow around the edges (see Figure 3.32).
- Causes image damage by blowing out highlight detail (making color run to absolute white) or blocking up shadow detail (making color run to absolute black) while it increases and enhances contrast.

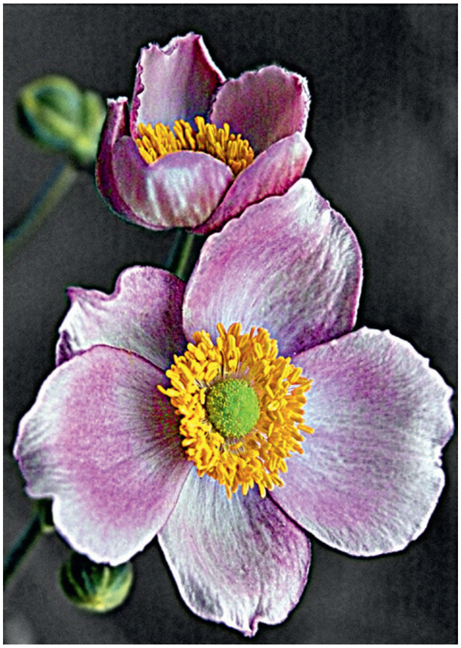


FIG 3.32 Oversharpening will heat up edges, accentuate noise, and make an image look horrible

Sharpening can do just as much harm as good if you use it incorrectly. We'll look at best practices for using the Unsharp Mask filter and how to use it for both enhancing sharpness and enhancing image contrast. It can be interesting to look at selective sharpening, which we'll do using layer masks and clipping layers. We'll revisit the idea of sharpening without using the Unsharp Mask filter in Chapter 5.

Unsharp Mask Filter for Sharpening

The Unsharp Mask filter causes a lot of confusion because of its name. It seems incongruous that a filter called "unsharp" is used for sharpening an image. The word *unsharp* comes from darkroom practice. A blurred, inverted copy of a negative was sandwiched with the original to create an edge mask. During exposure in the darkroom, that unsharp mask was used to enhance edge separation, increasing the apparent sharpness of the results. It was the mask that was unsharp, not the image. The Unsharp Mask filter attempts to mimic the results of this type of masking using a digital calculation.

Unsharp Mask can work wonders in some images that are already reasonably sharp and can work well with fine detail like fur. For the following exercise, let's see how sharpening can affect the image we've been working on.

Try It Now: Applying the Unsharp Mask Filter for Sharpening

1. Load the mask for Layer 8 as a selection.
2. Click on the thumbnail for Layer 15 to activate it.
3. Open the Unsharp Mask filter (Filter>Sharpen>Unsharp Mask).
4. In the Unsharp Mask filter dialog, set the Amount, Radius, and Threshold to achieve a sharpening effect. See the *Unsharp Mask Filter Settings* sidebar.
5. Click OK.

Unsharp Mask Filter Settings

For an image in the 6 megapixel range, you will want to use the following settings for sharpening an image.

Unsharp Mask for Sharpening

Amount	between 75 and 150%
Radius	between 1 and 4 pixels
Threshold	0

Higher Amount and/or higher Radius will affect more pixels more intensely. Increase Radius and Amount settings for larger images; use lower Radius and Amount for smaller images. Larger images have more pixels, not necessarily greater physical dimension.

Unsharp Mask Filtering can also affect local contrast to help with object separation. Local contrast is part of how objects and colors play against one another. Enhancing local contrast is not as radical as flatly enhancing contrast in an image, as it depends on object and color proximity.

Unsharp Mask Filter for Local Contrast Enhancement

Amount	between 15 and 40%
Radius	between 50 and 150 pixels
Threshold	0

This can often work well with images that seem a little flat. Careful, as application this way can be abused and may lead to trouble by doing more harm than good. There are other techniques that we will look at in later chapters using layer modes that will also enhance local contrast.

The suggestions for sharpening proposed here are just suggestions: a place to start. You may run into images that can stand more sharpening, or less. What you want to avoid is creating damage and ill effects. Use your eyes, and watch for the effects of oversharpening.

Depending on your settings, sharpening may have given you pleasing, somewhat pleasing, or sorta ornery results. The fact is that very little of this image will take kindly to strong sharpening, and because of the nature of the image and added noise, you may actually experience unpleasant enhancement of the noise if you are not careful. Sharpening does not play favorites; it enhances everything in the image. To combat the potential problems, the steps do a few things to help ensure the result is not too harsh. First, the selection confines the sharpening to the flowers, diverting it from the background. Second, the sharpening is applied below the two layers that create the soft-focus effect. For the example, I used a 2 pixel radius and 100% with a threshold of 0. You will probably have to look pretty closely to see the changes.

For additional control you can also sharpen selectively by painting in the adjustments.

Try It Now: Sharpening Selectively with Freehand Layer Masks

1. Be sure layer 17 is active, and press Command+Option+Shift+E/Ctrl+Alt+Shift+E to stamp visible to a new layer. Name the new layer **18 – Selective Sharpening**.
2. Apply the Unsharp Mask filter using the same settings as before (100%, 2.0 and 0).
3. Click the Add Layer Mask button at the bottom of the Layers palette. This will add a mask to the *18 – Selective Sharpening* layer.
4. Fill the mask with black. To do this just invert it by pressing Command+I/Ctrl+I/.
5. Choose the Brush tool and a medium-soft brush, change the foreground to white (press D with the mask thumbnail active), and paint over areas you would like to sharpen selectively (following the exercise, that would be over the eye of the flower). Painting white into the mask reveals those areas (Figure 3.33 shows what the mask should look like).

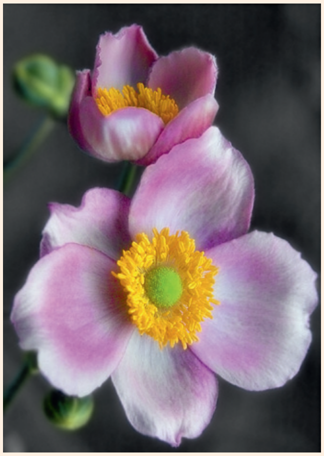
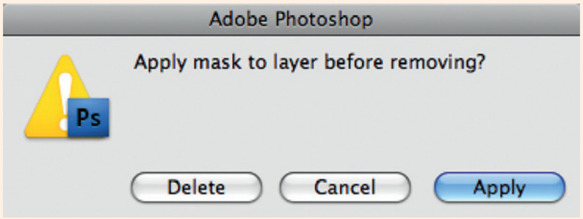


FIG 3.33 This mask will apply the sharpening from the exercise to the center of the flowers. The same technique can be used to apply other filters as well

You might have sharpened the entire layer, and this could lead to some problems. Masking (which we did here with both selection and masking) allows you to target the sharpening to places in the image that will benefit most. The very same thing can be accomplished with a clipping layer. Let's look at how to do that as well to achieve similar results.

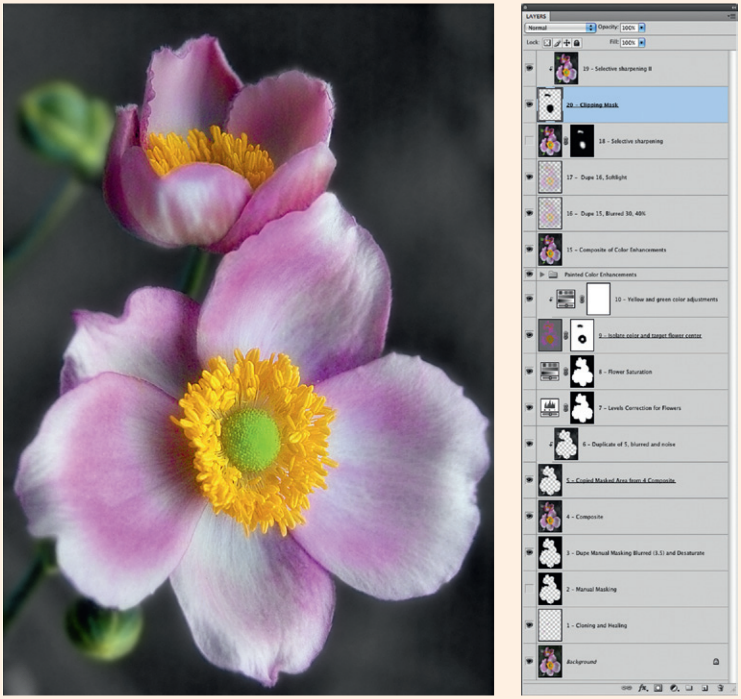
Try It Now: Sharpening Selectively with Clipping Layers

1. Duplicate the *18 – Selective Sharpening* layer, and name the new layer **19 – Selective Sharpening II**. Toggle the view for the layer *18 – Unsharp Mask* to off.
2. Toss out the mask on the *19 – Selective Sharpening II* layer by clicking-and-dragging the thumbnail for the mask to the Trash on the Layers palette. A dialog will appear asking what you want to do with the mask (see Figure 3.34). Click *Delete*.
3. Create a new layer by clicking the Create New Layer button on the Layers palette. Rename it **20 – Clipping Mask**.
4. Press Command+[/Ctrl+[to move the *20 – Clipping Mask* layer below the *19 – Selective Sharpening II* layer.
5. Activate the *19 – Selective Sharpening II* layer again by clicking it in the Layers palette; then press Command+Shift+G/Ctrl+Shift+G (this was Command+G/Ctrl+G for Photoshop CS or earlier, or for Elements users). This creates a Clipping group from the *19 – Selective Sharpening II* and *20 – Clipping Mask* layers.
6. Choose the Paintbrush tool, pick a brush, activate the *20 – Clipping Mask* layer, and paint on the layer (not on a mask) to reveal the sharpened contents of the *19 – Selective Sharpening II* layer. Your layers should look like the content of Figure 3.35.


Adobe Photoshop

Apply mask to layer before removing?

FIG 3.34 Applying the mask will permanently erase the masked area of the layer. You just want the mask to go away in this case



Normal
Opacity: 100%
Lock:
Fill: 100%

19 – Selective sharpening II
20 – Clipping Mask
18 – Selective sharpening
17 – Dupe 16, Softlight
16 – Dupe 15, Blurred 30, 40%
15 – Composite of Color Enhancements
Painted Color Enhancements
10 – Yellow and green color adjustments
9 – Isolate color and target flower center
8 – Flower Saturation
7 – Levels Correction for Flowers
6 – Duplicate of 5, blurred and noise
5 – Copied Masked Area from 4 Composite
4 – Composite
3 – Dupe Manual Masking Blurred (3.5) and Desaturate
2 – Manual Masking
1 – Cloning and Healing
Background

FIG 3.35 **The base layer in the clipping group will control what displays from the combined content in the clipping group**

With clipping masks, it is the solidity of the lower layer (rather than the tone of the mask) that controls what can be seen. You can set up Snapshots in the History palette to compare the two methods of sharpening. You should find them essentially identical.

Throughout this exercise you have looked at many implementations of layers and masking and the type of advantages they provide in a real-world situation for isolating change. Six points in our to-do list have led to a plethora of changes and the creation of a bunch of layers (see the layered result in the sample image (see Figure 3.35)). The resulting layers along with a few additional adjustments can be perused if you open the Sample_3.2_complete.psd image from the downloads. The basic concept is, indeed, "masking hides," but it can hide and reveal and becomes a particularly powerful tool when used in combination with layers for the purpose of corrections.

Yet another means of combining and targeting content changes can be found lurking in the Photoshop Layer Style dialog. Blend If offers opportunities separate from layer masking and clipping for masking that round out the layer experience and provide a unique kind of masking in conditional blending.

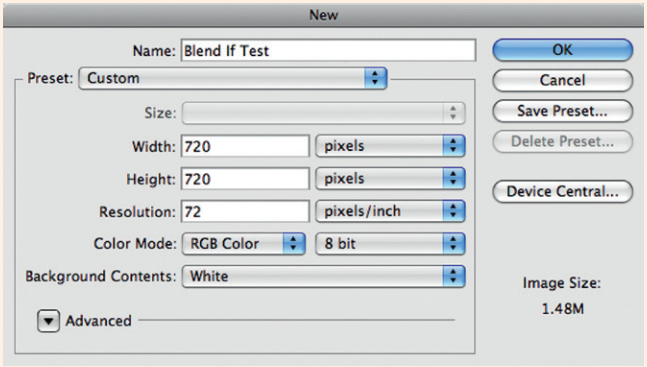
Blend If: An Overview

Blend If is very much an overlooked and even mysterious feature to almost any Photoshop user. If you try looking this feature up in manuals and books, you may not be able to find it. In fact even searching Photoshop Help will not yield a title with Blend If in it (though the feature is referenced by function in "Specify a blending mode for a layer or group" and "Specify a tonal range for blending layers"). Although the tool may not be a very popular target for tutorials and documentation, it is an enormously powerful tool that has been part of Photoshop Layers since the very inception of layers themselves.

What Blend If can do is help you target changes and corrections based on the color or tonal content of a layer by range. In a way it is like an auto-mask, in that it will mask a layer without you actually having to create a mask or a selection – and these masks can be highly complicated without much work. Setting Blend If adjustments will target change based on positions of a set of sliders (the Blend If sliders on the Layer Style dialog). Before we go any farther, let's take a look at the basic Blend If functionality and how you control it before we really try to look at what it can do.

Try It Now: Applying Blend If (Using 'This Layer' Sliders)

1. Create a new image (File>New) that is 720×720 pixels, with a white background (see the New dialog in Figure 3.36). Call it **Blend If Test**.
2. Press D to set the default colors (black and white).



Name: Blend If Test

Preset: Custom

Size:

Width: 720 pixels

Height: 720 pixels

Resolution: 72 pixels/inch

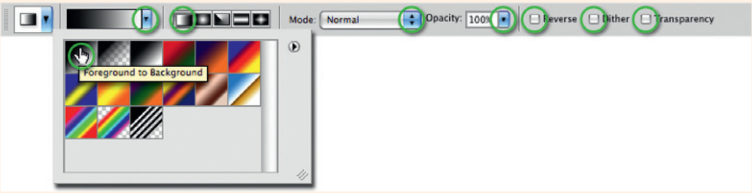
Color Mode: RGB Color 8 bit

Background Contents: White

Image Size: 1.48M

FIG 3.36 Match these settings on the New dialog when it appears

3. Choose the Gradient tool from the toolbar and be sure the Options are set to Linear Gradient, Normal Mode, and 100% Opacity, and uncheck Reverse, Dither, and Transparency. Choose the Foreground to Background gradient. To do this, click the gradient color bar on the Options panel, and click the gradient in the top left of the Gradient Editor dialog that appears. (See Figure 3.37).



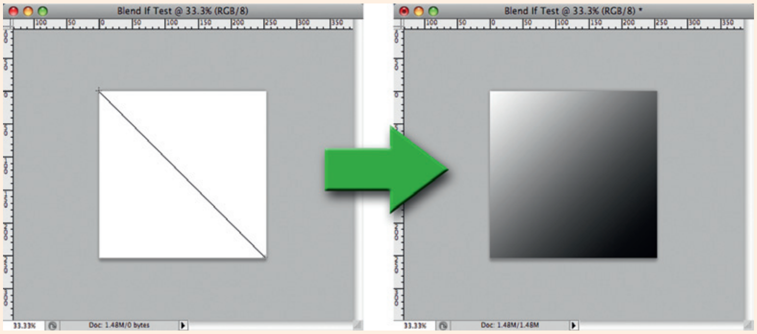
Mode: Normal

Opacity: 100%

☐ Reverse ☐ Dither ☐ Transparency

FIG 3.37 Match these settings on the Options bar after choosing the Gradient tool

4. Create a new layer and call it **1 – Gradient**.
5. Click on the lower right of the image and drag the cursor to the upper left; then release the mouse. The image should fill in a gradient from black to white from the lower right to the upper left (see Figure 3.38).



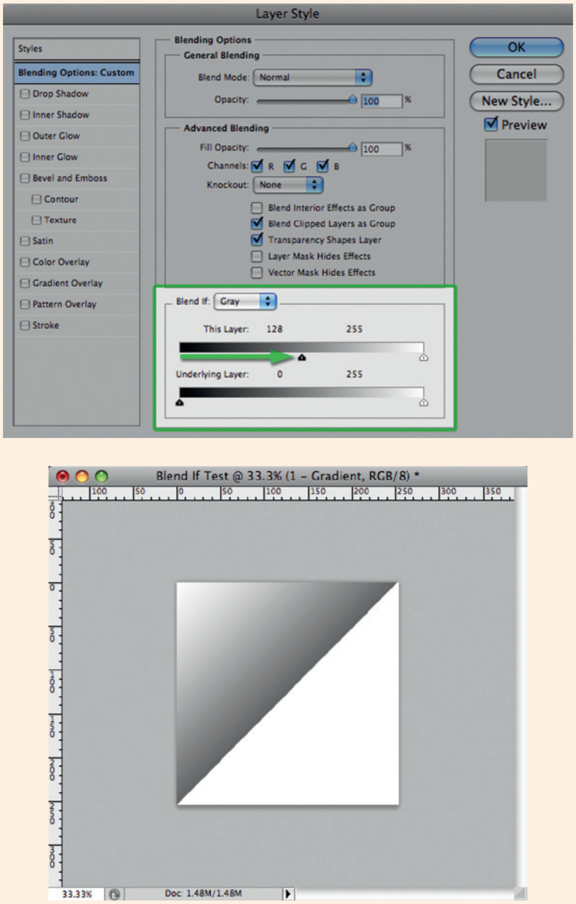
Blend If Test @ 33.3% (RGB/8)
33.33%
Doc: 1.48M/0 bytes
Blend If Test @ 33.3% (RGB/8) *
33.33%
Doc: 1.48M/1.48M

FIG 3.38 After click-and-drag and releasing the mouse button, the image will fill with your gradient

6. Take a snapshot of the image by clicking the Snapshot button at the bottom of the History palette (Windows>History). Leave the name as the default (Snapshot 1). This will make it easy to return to this state of the image in one click. We want to look at several things.
7. Double-click the Blend If Test layer in the Layers palette (anywhere but on the thumbnail or over the name). This will open the Layer Style dialog.

The numbers on the Blend If sliders span in levels 0–255. This corresponds to a range from black (0) to white (255) in a grayscale gradient.

8. Click on the black This Layer slider and drag the slider to 128 in the center of the slider range (see Figure 3.39).



Layer Style
Styles
Blending Options: Custom
☐ Drop Shadow
☐ Inner Shadow
☐ Outer Glow
☐ Inner Glow
☐ Bevel and Emboss
☐ Contour
☐ Texture
☐ Satin
☐ Color Overlay
☐ Gradient Overlay
☐ Pattern Overlay
☐ Stroke
OK
Cancel
New Style...
Blend If Test @ 33.3% (1 – Gradient, RGB/8) *
33.33%
Doc: 1.48M/1.48M

Blending Options
General Blending
Blend Mode: Normal
Opacity: 100 %
Advanced Blending
Fill Opacity: 100 %
Channels: ☑ R ☑ G ☑ B
Knockout: None
☐ Blend Interior Effects as Group
☑ Blend Clipped Layers as Group
☑ Transparency Shapes Layer
☐ Layer Mask Hides Effects
☐ Vector Mask Hides Effects
Blend If: Gray
This Layer: 128 255
Underlying Layer: 0 255
☑ Preview

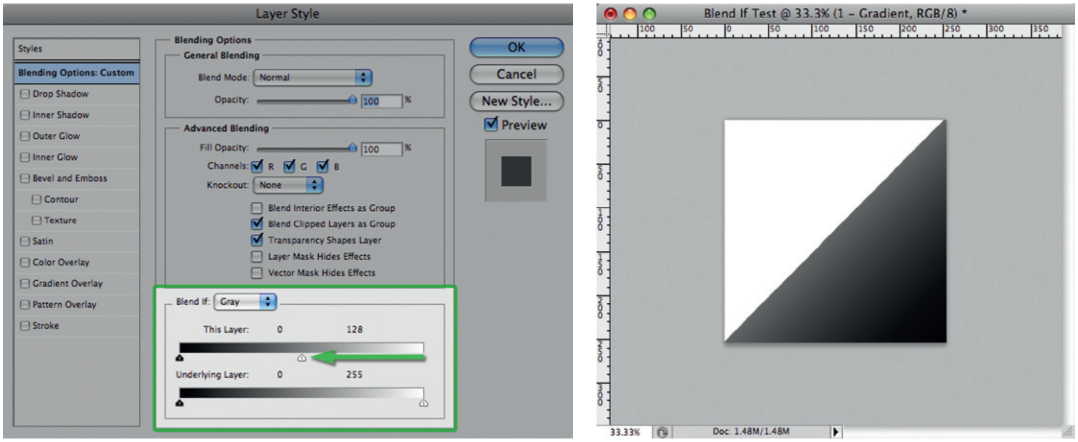
FIG 3.39 The change in position of the slider limits the range of what is visible in the layer (in this case the gradient), so it becomes transparent and blends with what is below based on those slider positions

Blend If does not delete the content of the layer, but instead acts like a mask, hiding the content according to the tonal range that remains between the sliders. Everything to the left of the black slider and everything to the right of the white slider becomes transparent. In this case, the range of tone in the shadows is masked/hidden in the *1 – Gradient* layer. If you shut off the Visibility toggle for the Background layer you can see the transparency.

Continuing from the exercise, try the following Blend If slider positions to get a better feel for the way it works:

- Move the black This Layer slider back to 0 and then move the white This Layer slider to 128 (Figure 3.40).
- Move the white This Layer slider to 192 and then move the black This Layer slider to 63 (Figure 3.41).

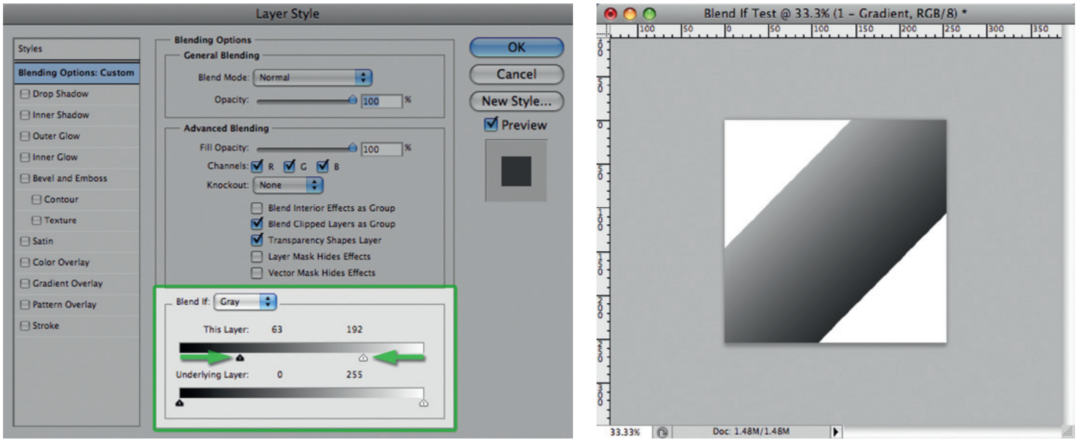
Applying layers with Blend If can occasionally be confounding when using the This Layer slider because the results can change as you edit the image (the *This* layer). However, when you see the differences between this and masking, you will see that it can be useful and do things that standard layer


Layer Style
Styles
Blending Options: Custom
Drop Shadow
Inner Shadow
Outer Glow
Inner Glow
Bevel and Emboss
Contour
Texture
Satin
Color Overlay
Gradient Overlay
Pattern Overlay
Stroke
Blending Options
General Blending
Advanced Blending
OK
Cancel
New Style...

Blend Mode: Normal
Opacity: 100 %
Fill Opacity: 100 %
Channels: ☑ R ☑ G ☑ B
Knockout: None
☐ Blend Interior Effects as Group
☑ Blend Clipped Layers as Group
☑ Transparency Shapes Layer
☐ Layer Mask Hides Effects
☐ Vector Mask Hides Effects
Blend If: Gray
This Layer: 0 128
Underlying Layer: 0 255
☑ Preview

Blend If Test @ 33.3% (1 – Gradient, RGB/8) *
33.33% Doc: 1.48M/1.48M

FIG 3.40 With the black slider positioned at 0 and the white at 128, the masked area is reversed


Layer Style
Styles
Blending Options: Custom
Drop Shadow
Inner Shadow
Outer Glow
Inner Glow
Bevel and Emboss
Contour
Texture
Satin
Color Overlay
Gradient Overlay
Pattern Overlay
Stroke
Blending Options
General Blending
Advanced Blending
OK
Cancel
New Style...

Blend Mode: Normal
Opacity: 100 %
Fill Opacity: 100 %
Channels: ☑ R ☑ G ☑ B
Knockout: None
☐ Blend Interior Effects as Group
☑ Blend Clipped Layers as Group
☑ Transparency Shapes Layer
☐ Layer Mask Hides Effects
☐ Vector Mask Hides Effects
Blend If: Gray
This Layer: 63 192
Underlying Layer: 0 255
☑ Preview

Blend If Test @ 33.3% (1 – Gradient, RGB/8) *
33.33% Doc: 1.48M/1.48M

FIG 3.41 With the black slider positioned at 63 and the white at 192, the brightest highlights and darkest shadows are masked

masking will not. Any changes you make to the layer content for which the This Layer Blend If sliders are set may result in changes in the masking effect in the image. To test this out, make a Levels adjustment to the *1 – Gradient* layer (Image>Adjustments>Levels). When the dialog opens, swing the center gray slider left and right and watch how the image behaves. Because the content of the layer is being adjusted, more or less of it falls into the static range defined by Blend If.

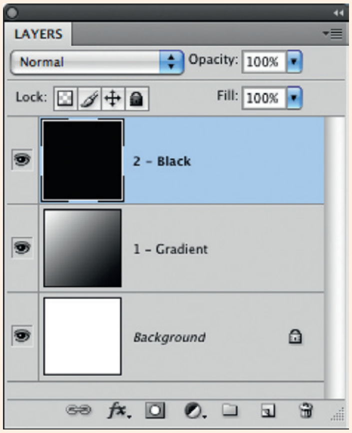
As a comparison, close the Levels dialog without committing the change. Now do the same thing with an Adjustment layer by choosing Levels from the *Create New Fill or Adjustment Layer* menu on the bottom of the Layers palette (do not group with previous). The direct application of Levels changes the content of the layer so the area that is masked changes as you make the adjustment; when you use an Adjustment layer, it is a virtual change, so the masking effect stays in the same area, though the visible result lightens/darkens. If you make a clipping group from the adjustment and *1 – Gradient* layers, the levels change will affect the content like a direct application of levels.

The same concepts of blending and masking hold true for using the Underlying Layer sliders. The main difference is that the content of the current layer will blend based on the content of the layers below, rather than the content of the layer on which you apply the blend. To see the results of using the Underlying Layer sliders, try the following exercise.

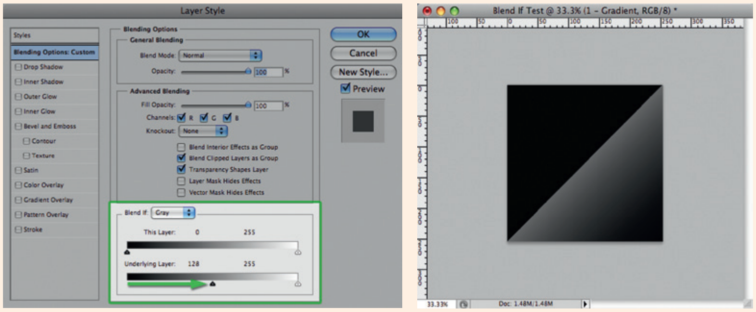
Try It Now: Applying Blend If (Using 'Underlying' Sliders)

1. Click Snapshot 1 in the History palette to reset the image and Blend If sliders.
2. Add a new layer at the top of the layer stack and call it **2 – Black**, and fill the layer with black (Edit>Fill). The setup should look like Figure 3.42.
3. Double-click the *2 – Black* layer in the Layers palette to open the Layer Style dialog.

FIG 3.42 The black upper layer will block the gradient below it

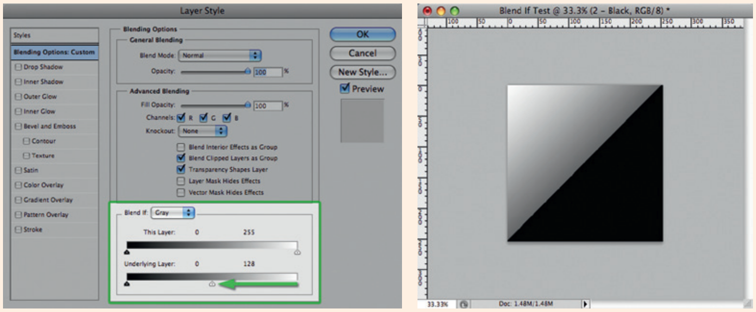


4. Click on the black *Underlying Layer* slider and drag it to the center of the slider range at 128 (see Figure 3.43).
5. Move the black Underlying Layer slider back to 0 and then move the white Underlying Layer slider to 128 (Figure 3.44).
6. Move the black Underlying Layer slider to 192 and then move the white Underlying Layer slider to 63 (Figure 3.45).


Layer Style
Styles
Blending Options: Custom
Drop Shadow
Inner Shadow
Outer Glow
Inner Glow
Bevel and Emboss
Contour
Texture
Satin
Color Overlay
Gradient Overlay
Pattern Overlay
Stroke
OK
Cancel
New Style...
Preview
Blend If Test @ 33.3% (1 – Gradient, RGB/8) *
33.33%
Doc: 1.48M/1.48M

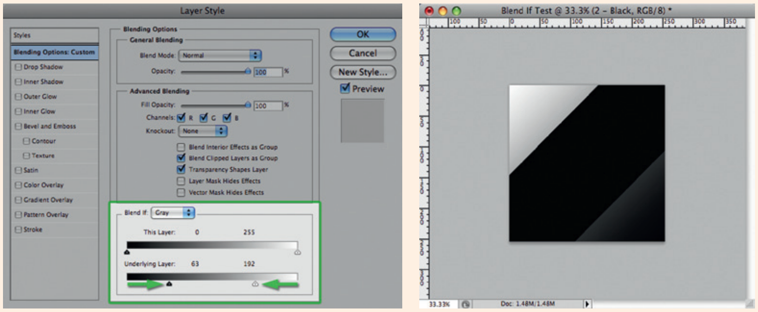
Blending Options
General Blending
Blend Mode: Normal
Opacity: 100 %
Advanced Blending
Fill Opacity: 100 %
Channels: ☑ R ☑ G ☑ B
Knockout: None
☐ Blend Interior Effects as Group
☑ Blend Clipped Layers as Group
☑ Transparency Shapes Layer
☐ Layer Mask Hides Effects
☐ Vector Mask Hides Effects
Blend If: Gray
This Layer: 0 255
Underlying Layer: 128 255

FIG 3.43 When the black slider is placed at 128, the upper layer is hidden over the shadow portion of the layer below (1 – Gradient)


Layer Style
Blend If Test @ 33.3% (2 – Black, RGB/8) *
33.33%
Doc: 1.48M/1.48M

Blend If: Gray
This Layer: 0 255
Underlying Layer: 0 128

FIG 3.44 When the white slider is placed at 128, the upper layer is hidden over the highlight portion of the layer below


Layer Style
Blend If Test @ 33.3% (2 – Black, RGB/8) *
33.33%
Doc: 1.48M/1.48M

Blend If: Gray
This Layer: 0 255
Underlying Layer: 63 192

FIG 3.45 The brightest highlights and darkest shadows show through the black layer with these settings

These examples are hard-edged applications of Blend If in its simplest form. Other features of Blend If allow partial blending and blending based on color ranges rather than just tone. Partial transparency – the real “blending” form of Blend If – is created by splitting the sliders. Let’s look at how to split sliders to have all the basic functions in tow before we apply them to more involved purposes.

Try It Now: Splitting Blend If Sliders

1. Click Snapshot 1 in the History palette to reset the Blend If for the layers and the layer order.
2. Open the Layer Style dialog for the Blend If Test layer by double-clicking the layer.
3. Move the black This Layer slider so it is at 128 (as in Figure 3.46).

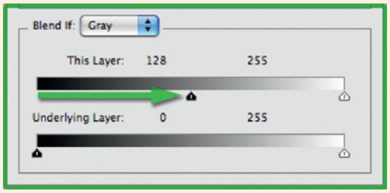
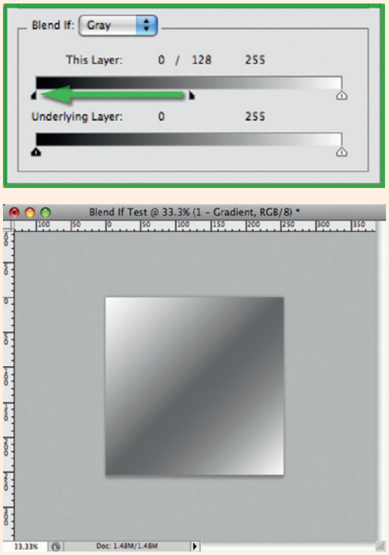

Blend If: Gray
This Layer: 128 255
Underlying Layer: 0 255

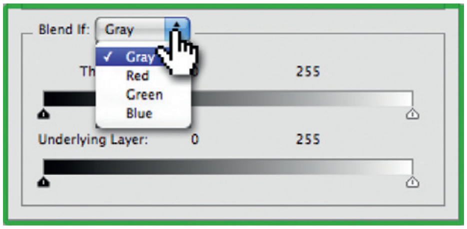
FIG 3.46 The same move you did earlier . . .

4. Hold down the Option/Alt key and click on the left of the black slider and then drag it to 0. The slider will divide into two parts (see Figure 3.47).


Blend If: Gray
This Layer: 0 / 128 255
Underlying Layer: 0 255

Blend If Test @ 33.3% (1 - Gradient, RGB/8) *

FIG 3.47 Splitting the sliders makes the effect blend between the two slider positions



Blend If: Gray

Underlying Layer: 0 255

FIG 3.48 We will continue to look at tone-based Blend If effects as they are most useful, but techniques here work with colors as well

Splitting the slider will blend the result from 0 to 100% opacity between the split halves. Splitting the sliders allows you to make a softer transition in the effect, similar to blurring a mask or feathering a selection. The idea is that you gain control over how the edges of your blends dissipate, rather than using them as an on/off switch for a particular range, as sliders that are not split will do. When you use them as on/off switches the edges can end up hard and blocky.

Do not close the Blend If Test image. We'll use it again in a moment.

Color targeting can be done by choosing ranges for the Red, Green, and Blue sliders found under the Blend If drop-down list (see Figure 3.48). Of course using color-based blending can get extremely complicated pretty quickly, and may take quite a lot of practice before you can get the results you expect.

Keep in mind that the difference between standard layer masking and Blend If is that Blend If is based strictly on tonal (or color) ranges. Layer masks will be static in that the mask remains the shape you create it; Blend If masks can change shape as the content of the image does without adjusting the settings. Blend If and Layer masks can be used together to isolate image areas and target change. In an instance in which you know you want to target a particular tonal range and the selection or masking would otherwise be very difficult, you could use Blend If to get you close to what you want and then layer masking to touch up and complete the effect.

The inconvenience of Blend If combined with its uninviting nature is probably why it is not used more often. There is also the issue that Adobe has chosen not to put an indicator on a layer when a Blend If change has been applied, and that makes it a virtually invisible effect when applied. Using layer naming is therefore mandatory in this instance or you may end up running into inexplicable results.

To make application of Blend If easier, I have included Blend If actions with the downloads. The action set helps you automate Blend If settings so you don't have to go into the Layer Style dialog and adjust settings. These preset ranges can substitute for tone-based layer masks that will target tone ranges in layers below the layer on which they are applied.

TABLE 3.1 Blend If Actions

Action	Description
Isolate Shadows	Sets the split This Layer white slider to 0 and 255. The full range of shadows will be affected diminishing to 0% at white.
Isolate Shadows to Midtone	Sets the split This Layer white slider to 0 and 128. Half the range of shadows will be affected diminishing to 0% at midtone.
Isolate Highlights	Sets the split This Layer black slider to 0 and 255. The full range of highlights will be affected diminishing to 0% at black.
Isolate Highlights to Midtone	Sets the split This Layer black slider to 128 and 255. Half the range of highlights will be affected diminishing to 0% at midtone.
Isolate Midtones	Sets the split This Layer black slider to 0 and 128 and the white slider to 128 and 255. Targets the midrange diminishing to 0% at white and black.
Isolate Highlights and Shadows	Sets the split This Layer black slider to 128 and 255 and the white slider to 0 and 128. Targets the midrange diminishing to 0% at midtone.
Target Underlying Highlights	Sets the split Underlying Layer black slider to 0 and 255. The full range of highlights will be affected diminishing to 0% at black.
Target Underlying Highlights to Midtone	Sets the split Underlying Layer black slider to 128 and 255. Half the range of Highlights will be affected diminishing to 0% at midtone.
Target Underlying Shadows	Sets the split Underlying Layer white slider to 0 and 255. The full range of shadows will be affected diminishing to 0% at white.
Target Underlying Shadows to Midtone	Sets the split Underlying Layer white slider to 0 and 128. Half the range of shadows will be affected diminishing to 0% at midtone.
Target Underlying Midtones	Sets the split Underlying Layer black slider to 0 and 128 and the Underlying Layer white slider to 128 and 255. Targets the midtones diminishing to 0% at white and black.
Target Underlying Highlights and Shadows	Sets the split Underlying Layer black slider to 128 and 255 and the Underlying Layer white slider to 0 and 128. Targets the highlights and shadows diminishing to 0% at midtone.
Reset	Sets the Underlying Layer to unsplit positions with the black slider at 0 and the white slider at 255.

These presets can serve a variety of purposes. These simple range targeting actions can make quick, one-click work of applying things like a highlight mask without having to even open the Channels palette. If you choose to experiment with the Blend If feature, loading the actions will be worth the effort just for the sake of the Reset action. In fact, activate the Blend If Test

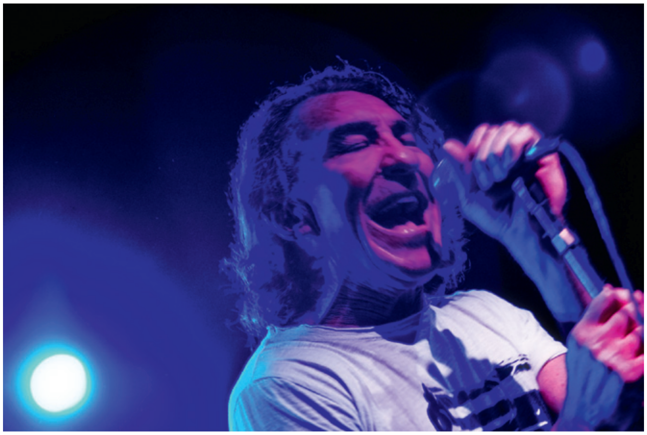


FIG 3.49 Fee Waybill of The Tubes shot in concert in Niagara Falls, NY

image and apply the Reset action now so the test image is ready to go a little later in another example.

Blend If provides yet another opportunity to isolate content. It also provides alternatives to using other tools, such as the Magic Wand or color range tools for making selections, masks, and creating object isolation based on tone and color, and requires less guessing. For example, say you want to target a change to the shadows in your image. Blend If will allow you to create a mask instantly (using the provided actions) and that can be converted to a mask if it needs other non-tone-based adjustment.

Figure 3.49 shows a concert photo that has already been color and tone adjusted. Already more of an impressionistic photo because of the stage lighting, the haze from the stage misting leaves the image with less contrast than it might have. There are a variety of ways to solve the issue, but here's a method using Blend If.

Try It Now: Blend If to Target Change

1. Load the Blend If.atn file to have the Blend If actions available.
2. Open the Sample_3.3.psd image from the downloads.
3. Duplicate the Background layer. Name the new layer **1 – Blend If Shadows, Overlay 50%**.
4. Click the Blend If, Isolate Shadows action in the Actions palette, and then click Play at the bottom of the Actions palette. Nothing will happen in the image, but if you toggle the view for the background, you can see the resulting transparency (see Figure 3.50).

Blend If targeting can also be converted to a mask. Using the same image from where we left off, try it now.

5. Set the *1 – Blend If Shadows, Overlay 50%* layer to Overlay mode, and reduce the opacity to 50%. See the result in Figure 3.51.

FIG 3.50 Viewed by itself, the 1 – Blend If Shadows, Overlay 50% layer shows transparency in the highlights

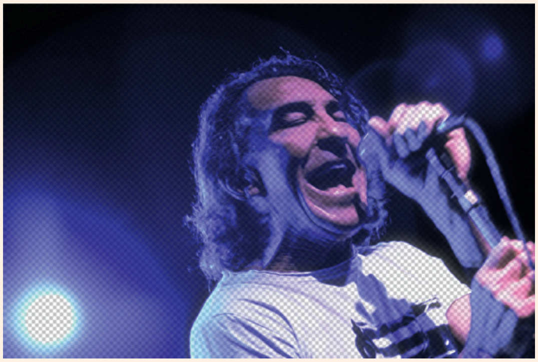
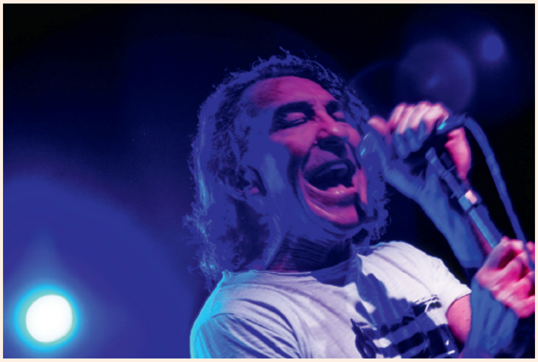
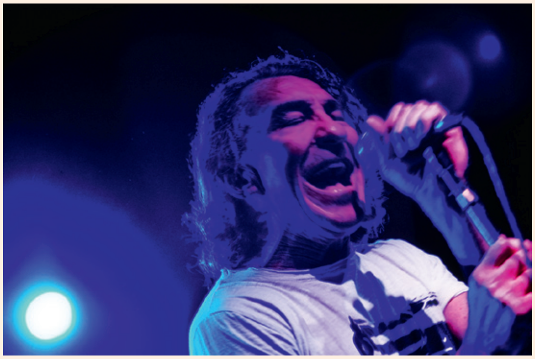


FIG 3.51 With the shadows isolated using Blend If, we can use mode and opacity to calculate an effect. Overlay will darken the shadows thereby enhancing the contrast





Try It Now: Converting Blend If Targeting to a Mask

1. Change the mode of the *1 – Blend If Shadows, Overlay 50%* to Normal and 100% opacity, and change the name to **1 – Blend If Shadows**.
2. Create a new layer at the top of the layer stack and name it **2 – Blend If Mask**.
3. Shut off the view for the Background layer.
4. Press Command+Option+Shift+E/Ctrl+Alt+Shift+E. The visible content will copy to the *2 – Blend If Mask* layer.

This can now be used as the base layer in a clipping group, or loaded as a selection by Command/Ctrl clicking on the thumbnail for the layer (to load the solid part of the layer as a selection). Once it is a selection, you can make it into a mask – just add a new mask to a layer or create a new Adjustment layer and the selection will automatically convert to a layer mask.

Keys to success with Blend If lie in using it in conjunction with other tools and features. It won't be the magic bullet for many problems all on its own, but it will be a masking helper, selection helper, and companion to other masking and selection techniques. Flexibility is offered by the quick Blend If actions included with the downloads, and they will keep you from having to dig into the Layer Style dialog every time you want to try something from the Blend If bag of tricks.

Knockouts

Another seldom-used feature under Advanced Blending in the Layer Style dialog is Knockout: seldom covered or explored because it is hidden on the Layer Style dialog. Knockout can behave much like solidity in the base layer of the clipping mask or as a mask, but it does it from the top down rather than from below like a Clipping layer or as a sidecar for layer masks. Take a look at this example to see how it works.

To make a Knockout, try the following using the Blend If Test image from the earlier exercise.

Try It Now: Applying a Knockout

1. Activate the *Blend If Test* image and click the *Snapshot 1* snapshot if you did not already do so earlier.
2. Activate the Background layer and fill it with blue (Edit>Fill>Use>Color..., RGB: 0, 0, 255).
3. Create a new layer above the background and name the layer **2 – Green Base** before accepting the changes in the dialog. Fill it with green (Edit>Fill>Use>Color..., RGB: 0, 255, 0).

4. Choose the Type tool, be sure you have selected a large type face like Arial Black at 200 points, and change the type color to red (RGB: 255, 0, 0).
5. Activate the *1 – Gradient* layer by clicking it in the Layers palette, then click on the image and type the word HOLE in all capital letters. The image should approximate Figure 3.52.

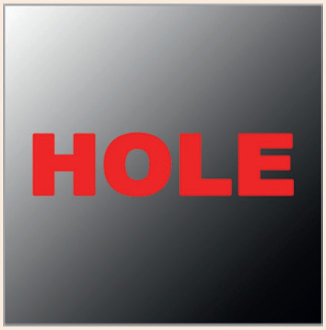


FIG 3.52 Center the type vertically and horizontally on the image (doesn't need to be exact)

6. Highlight both the *HOLE* layer and the *1 – Gradient* layer in the Layers palette.
7. Drag the layers to the *Create a New Group* button at the bottom of the Layers palette. Leave the default name, but toggle the arrow to expand the group to see the two layers inside (*1 – Gradient* and *HOLE*). The layers should look like Figure 3.53.

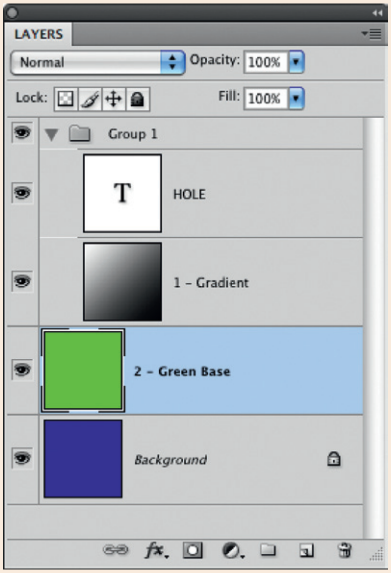
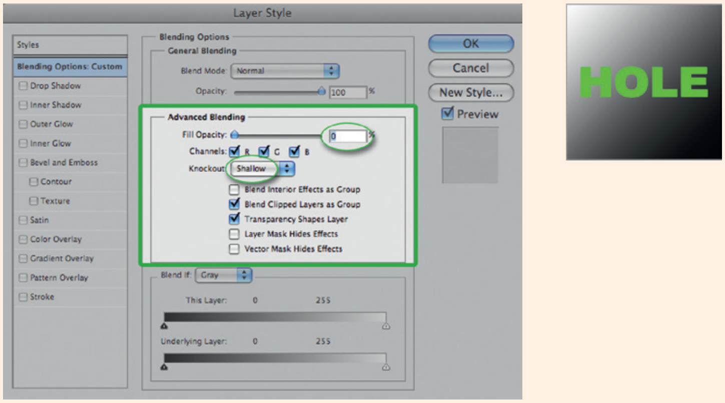

LAYERS
Normal
Opacity: 100%
Lock:
Fill: 100%
Group 1
T
HOLE
1 – Gradient
2 – Green Base
Background

FIG 3.53 The setup for the layers should look like this for the next steps to work properly

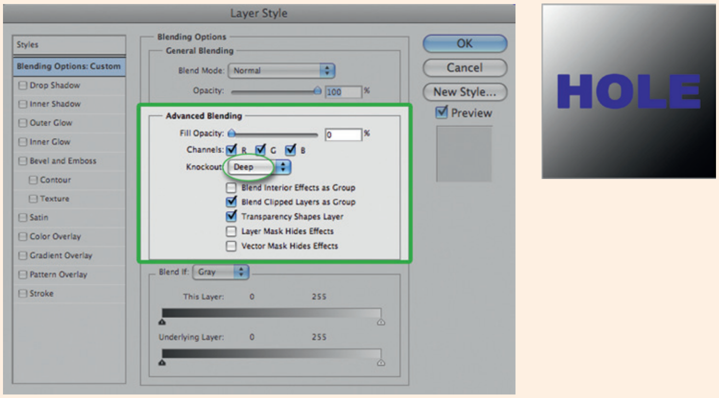
8. Double-click the *HOLE* layer to open the Layer Style dialog. Change the Fill to 0% (the type will disappear); then choose Shallow from the Knockout drop-down list. The type will appear in green, having knocked out the base layer in the group (*1 – Gradient*) and revealed *2 – Green Base*. (See Figure 3.54.)


Layer Style
Styles
Blending Options: Custom
Drop Shadow
Inner Shadow
Outer Glow
Inner Glow
Bevel and Emboss
Contour
Texture
Satin
Color Overlay
Gradient Overlay
Pattern Overlay
Stroke
OK
Cancel
New Style...
HOLE

Blending Options
General Blending
Blend Mode: Normal
Opacity: 100 %
Advanced Blending
Fill Opacity: 0 %
Channels: ☑ R ☑ G ☑ B
Knockout: Shallow
☐ Blend Interior Effects as Group
☑ Blend Clipped Layers as Group
☑ Transparency Shapes Layer
☐ Layer Mask Hides Effects
☐ Vector Mask Hides Effects
Blend If: Gray
This Layer: 0 255
Underlying Layer: 0 255
☑ Preview

FIG 3.54 **The result of the shallow knockout uses the content of the HOLE layer to cut through all the layers in the group**

9. Change the Knockout to Deep. The word *HOLE* will knock out to the Background and appears blue. If there was no background in this image, it will knock out to transparent (see Figure 3.55).


Layer Style
Styles
Blending Options: Custom
Drop Shadow
Inner Shadow
Outer Glow
Inner Glow
Bevel and Emboss
Contour
Texture
Satin
Color Overlay
Gradient Overlay
Pattern Overlay
Stroke
OK
Cancel
New Style...
HOLE

Blending Options
General Blending
Blend Mode: Normal
Opacity: 100 %
Advanced Blending
Fill Opacity: 0 %
Channels: ☑ R ☑ G ☑ B
Knockout: Deep
☐ Blend Interior Effects as Group
☑ Blend Clipped Layers as Group
☑ Transparency Shapes Layer
☐ Layer Mask Hides Effects
☐ Vector Mask Hides Effects
Blend If: Gray
This Layer: 0 255
Underlying Layer: 0 255
☑ Preview

FIG 3.55 **The result of a Deep knockout. The layer content knocks out through every layer**

Shallow knockouts punch through the bottom of a group – if the knockout layers are in one; Deep knockouts punch through to the Background – or to transparency if no Background is available in the image. As a special purpose tool you may find other uses for knockout, but it may be useful in instances where you want to apply corrections without inserting layers into the layer stack, setting up crop previews for different standard image sizes, and other uses that may be clumsy with standard masking.

Summary

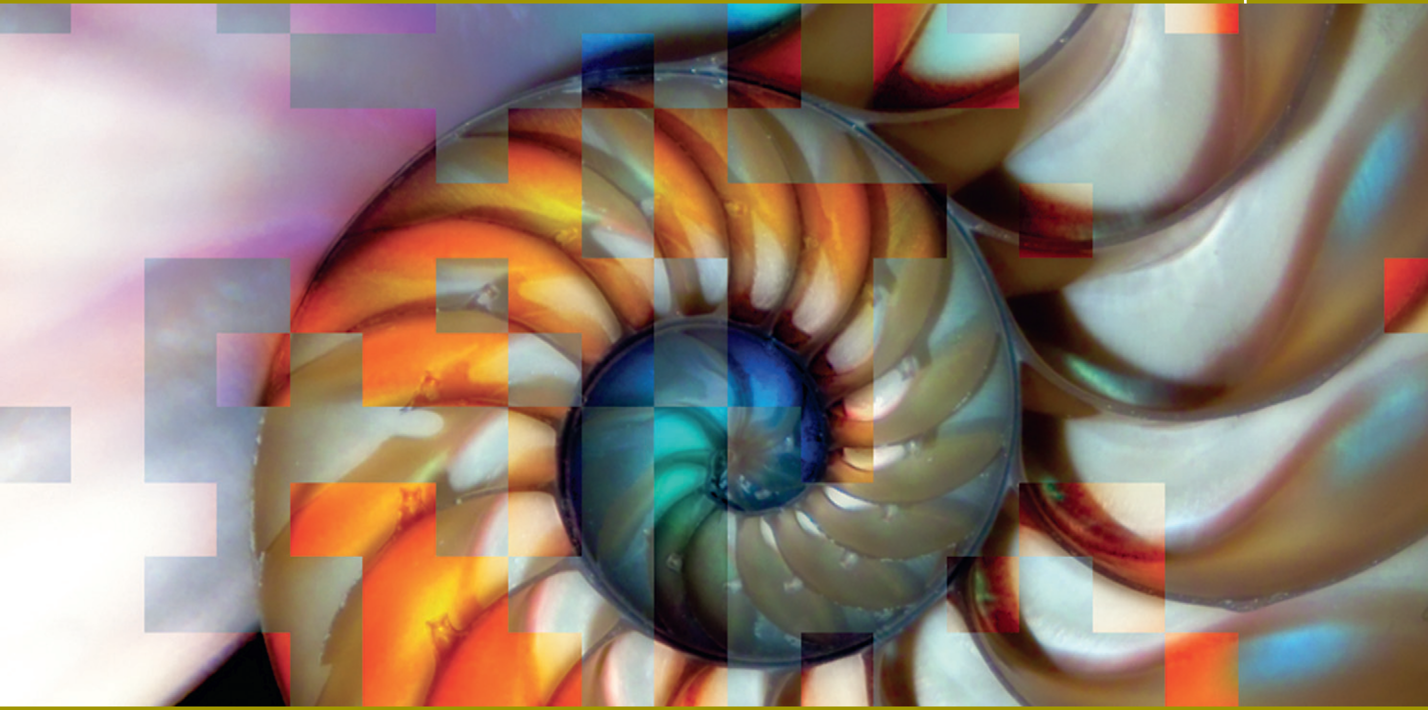
With isolation and masked changes you really begin to dissect an image, peeling back to more granular means of affecting the result. The real challenge is to take some of what you have learned about masking in layers in this chapter and apply it to your own images. It isn't so important to remember the various means of masking or even the terms. What is important is that masking is a layer property and that you know you can use it instead of erasing image details or instead of applying changes directly. Either erasing or applying directly, ends up permanently changing details, which is directly opposed to the advantages of non-destructive editing that we explore in this book.

Keep in mind that the correction list you develop for each photo drives your layer creation and the steps you take in making adjustments to your images. Creating the list of what to correct takes a disciplined eye. Some image needs will be obvious, and other images may reveal the need for adjustment as you work through corrections. For now, if you start making those lists in your mind and on paper every time you look at an image, you will begin to see your work flow lay out before you like a map. Think about what you are doing with each step, and help yourself with later adjustments by letting layers define the order of changes in the image.

We have looked at quite a few layer-based adjustments in the previous chapters. Some are convenient for shape, others for color and tone. One thing about many of the examples we have looked at is they are a mostly of the rarer variety in that a single method does what you need. Getting the best outcomes and quick results may require thinking creatively to use these tools to simplify your tasks. More often than not you will take small steps and gradually home in on your goals. For a given image there will be occasions on which I use every one of the techniques and functions mentioned in these chapters, and there are probably fewer times in which I will use one or two. Get familiar with each of these techniques, and add them to your tool belt. Work on them one at a time to get familiar with and master each. Set aside dedicated time to explore how the techniques might work in a variety of situations. If you run into one that doesn't seem to fit the mold, you will likely learn from the experience.

If you have questions, please feel free to visit the forums for the book at http://www.photoshopcs.com, where you can post questions with example images and we can discuss the results.

CHAPTER 4



Applying Layer Effects and Styles

Effects encompass a broad range of enhancements and adjustments from solid color fills and stroked outlines, to drop shadows and bevels, to combinations of these that create more complex layer styles. Application can be wild effects (often used with type, see Figure 4.1) to more moderate doses of change that add separation between image objects and subtle image enhancement.

It is useful to know what Styles and Effects are, where to find them, how to apply them, and how they act. Further utility comes from methods for using and controlling these effects using multiple layers, Fill and Opacity controls, and Global Settings and considering application of manual effects – which leads nicely into other topics of correction.

The Adobe Photoshop Layers Book.
© 2012 Richard Lynch. Published by Elsevier Ltd. All rights reserved.

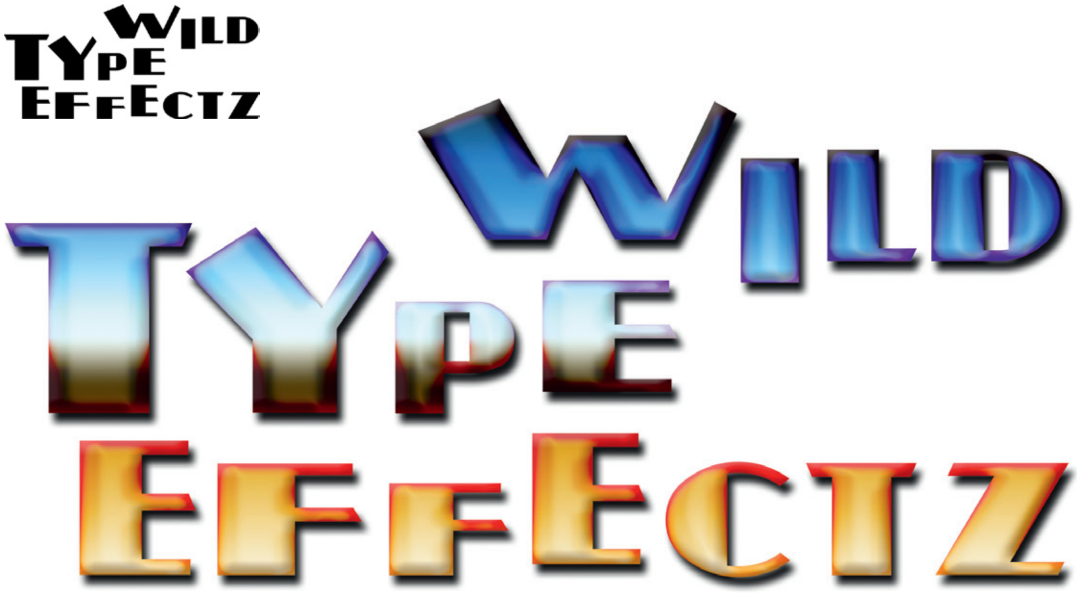


FIG 4.1 A fairly simple application of standard styles can radically change the appearance of type

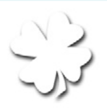
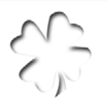
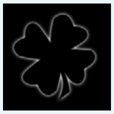
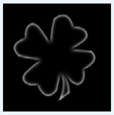
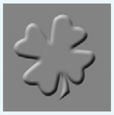
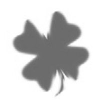
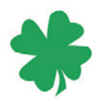
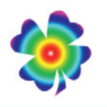
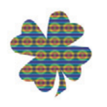
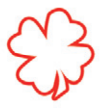
Styles are akin to filters in that you can waste hours and hours applying and adjusting the presets, and then undoing and applying again. They can become addictive when doing creative projects. However, there is a practical side to Styles, and we'll look at an overview of effects in this chapter from the standpoint of practical application in image enhancement and touch on the implications for broader creative effects.

The Fundamentals of Effects and Styles

The difference between Styles and Effects is that Effects are the separate functions that can be applied to a layer, and a Style is a preset for any effect or combination of effects. Photoshop has ten total effects (Table 4.1) and comes with a few canned/prefabricated styles that you can apply just by choosing an effect from a menu.

Styles can be created and saved, or you can download them from the Internet or buy collections and load them to apply at will (from such sites as actionfx.com). These canned styles work well usually for more creative applications and far less frequently for photo enhancements. The list of styles loaded can be found in the program on the Styles palette. Let's try applying a style.

TABLE 4.1 The Basics of Effects and Styles

Drop Shadow	Adds a shadow on the outer perimeter of the layer content. Affects the appearance of content only in layers below the layer on which it is applied.	
Inner Shadow	Adds a shadow inside the perimeter of the layer content. Affects the appearance of content only in the layer on which it is applied.	
Outer Glow	Adds a glow around the content of the layer on which it is applied. Affects the appearance of the content only below the layer on which it is applied.	
Inner Glow	Adds a glow inside the content of the layer on which it is applied. Affects the appearance of the content only in the layer on which it is applied.	
Bevel and Emboss	Adds highlights and shadows to a layer to affect a raised (Up) or lowered (Down) appearance. Can be used in several modes, including Outer Bevel (applied to the outer perimeter affecting only layers below), Inner Bevel (applied to the inner perimeter affecting only the current layer), Emboss (applied as both Inner and Outer Bevels), Pillow Emboss (applied as Inner Bevel Up and Outer Bevel Down), or Stroke Emboss (applied to Stroke effects only). May affect the layer on which it is applied as well as layers below depending on the settings you choose.	
Satin	Applies shading to the inner perimeter of the layer. Supposed to give a satin look. Affects the appearance of content in the layer on which it is applied.	
Color	Fills the layer content with a color. Affects the appearance of only the layer on which it is applied.	
Gradient	Fills the layer content with a gradient. Affects only the layer on which it is applied.	
Pattern Overlay	Fills the layer content with a pattern. Affects only the layer on which it is applied.	
Stroke	Strokes the outline of the current layer content using color, a gradient, or a pattern. Strokes can be Outside, Inside, or on Center. Affects the layer on which it is applied, layers below, or both depending on the settings.	

To find style names, roll your cursor over the styles one at a time. You can also view the names of the styles in the palette by choosing Text, Small List, or Large List from the Styles palette menu. Text lists the styles by name only, Small List and Large List list styles by thumbnail and name. That is all there really is to applying a style: locate and click. However, there is a little more to working with styles, as we'll see. In the following steps we'll add another effect to the existing style.

Try It Now: Basic Application of Styles

1. Open the Sample_4.1.psd image from the downloads.
2. Click on the Wild Type Effectz layer in the Layers palette if it is not already active.
3. Choose Styles from the Windows menu to open the Styles palette (see Figure 4.2).

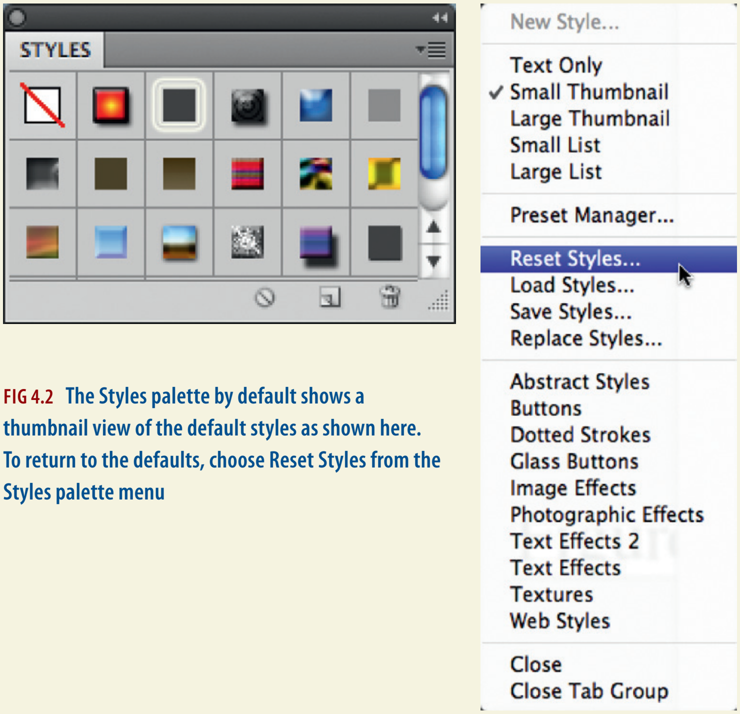
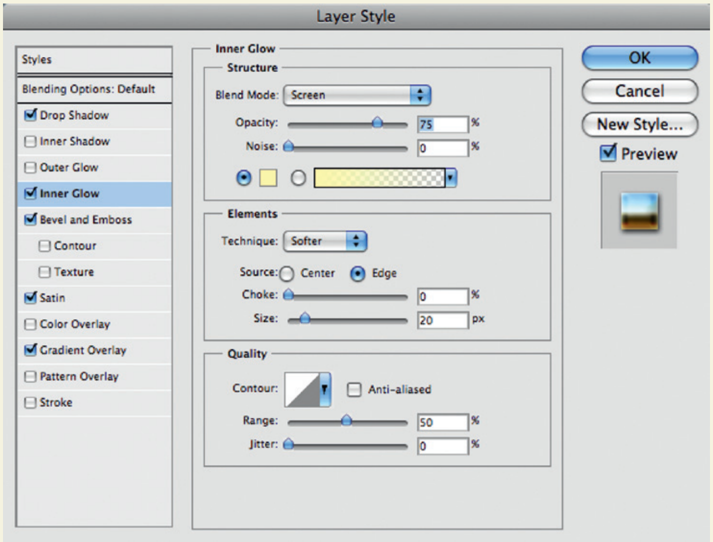

STYLES
New Style...
Text Only
✓ Small Thumbnail
Large Thumbnail
Small List
Large List
Preset Manager...
Reset Styles...
Load Styles...
Save Styles...
Replace Styles...
Abstract Styles
Buttons
Dotted Strokes
Glass Buttons
Image Effects
Photographic Effects
Text Effects 2
Text Effects
Textures
Web Styles
Close
Close Tab Group

FIG 4.2 The Styles palette by default shows a thumbnail view of the default styles as shown here. To return to the defaults, choose Reset Styles from the Styles palette menu

4. Locate the style named Chrome Satin in the Styles palette, and apply it by clicking the thumbnail.
5. Choose Inner Glow from the Add a Layer Style menu located at the bottom of the Layers palette or off the Layer menu (Layer>Layer Styles>Inner Glow). This will open the Layer Style dialog (see Figure 4.3).
6. Change the Blend Mode for the Inner Glow to Color Burn, change the color to Red (RGB: 255, 0, 0), and change the Size to 20 pixels. This will intensify and burn in the red at the edge of the letters. To change the color to Red, click the Set Color of Glow swatch in the Structure panel and choose the color in the Color Picker that appears.


Layer Style

Styles

Blending Options: Default

- ☑ Drop Shadow
- ☐ Inner Shadow
- ☐ Outer Glow
- ☑ Inner Glow
- ☑ Bevel and Emboss
  - ☐ Contour
  - ☐ Texture
- ☑ Satin
- ☐ Color Overlay
- ☑ Gradient Overlay
- ☐ Pattern Overlay
- ☐ Stroke

Inner Glow

Structure

Blend Mode: Screen

Opacity: 75 %

Noise: 0 %

● ○

Elements

Technique: Softer

Source: ○ Center ● Edge

Choke: 0 %

Size: 20 px

Quality

Contour: ☐ Anti-aliased

Range: 50 %

Jitter: 0 %

FIG 4.3 The Inner Glow style to the left of the Layer Style dialog will be checked and highlighted. The Inner Glow options will be displayed at the center of the screen

To check your results, see Sample_4.1-styled.psd from the downloads. You can experiment with other settings, but at this point you have replicated the results from Figure 4.1. To see how each of the effects contributes to the result of the style you have applied, uncheck the box next to the effect on the left to toggle the view for individual effects in the style. To adjust the settings for any of the effects, just click the name of the effect to reveal the options, and change them as desired in the dialog by adjusting any of the settings. For example, if you change the Gradient Overlay from 290 to 180°, you will get a very different effect (see Figure 4.4).

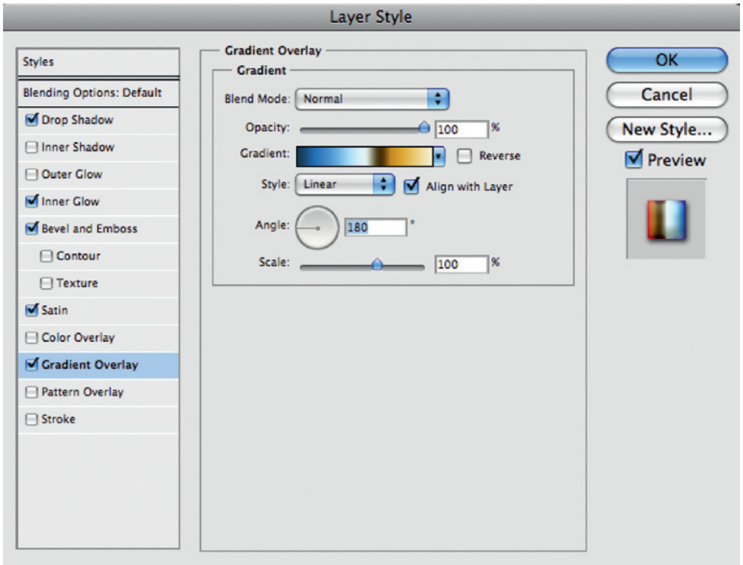
You can manage separate effects in the style by toggling the view for the effects in the Layers palette (see Figure 4.5). You can shut off the view for individual effects or for the whole grouping of effects with the Visibility toggles. In the example, shut off the Bevel and note the difference in the effect on the image. You can toggle the effect to compare, but leave the visibility for that particular effect off before continuing.

This only scratches the surface of what Styles can do. The small change you made by shutting off the view for just one of the effects should suggest just how much potential there is to vary your results. Don't close this file; you'll need it in a moment.

Be careful with the amount of time you devote to playing around with styles and effects and set a limit beforehand for your experimentation, or you can lose hours of what would otherwise be productive work time correcting images.

Tip

I find styles most useful for storing settings that I tend to use repeatedly. For example, I occasionally use a Bevel effect that sets both the Highlight and the Shadow to black and multiply in combination with the Inner Shadow effect. I like the opportunity the combination gives me to tune the beveling effect. Storing that as a style allows me to apply it with a click rather than having to go through several steps each time I want to set that same combination up from scratch. Likewise, you may find half a dozen or so practical settings for reuse. But keep in mind, as well, that Styles are more often a creative tool than a correction tool.



Layer Style

Styles

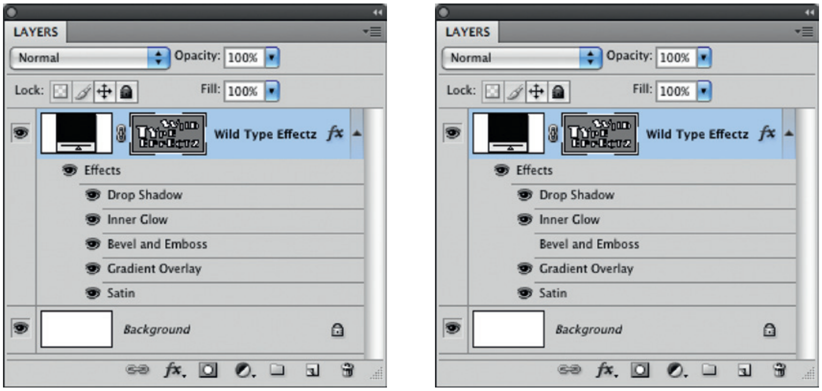
Blending Options: Default

☑ Drop Shadow
☐ Inner Shadow
☐ Outer Glow
☑ Inner Glow
☑ Bevel and Emboss
  ☐ Contour
  ☐ Texture
☑ Satin
☐ Color Overlay
☑ Gradient Overlay
☐ Pattern Overlay
☐ Stroke

Gradient Overlay
Gradient
Blend Mode: Normal
Opacity: 100 %
Gradient: ☐ Reverse
Style: Linear ☑ Align with Layer
Angle: 180 °
Scale: 100 %

OK
Cancel
New Style...
☑ Preview

FIG 4.4 Changing the options for any of the Effects will change the result for the Style accordingly



LAYERS
Normal
Opacity: 100%
Lock:
Fill: 100%
Wild Type Effectz
Effects
Drop Shadow
Inner Glow
Bevel and Emboss
Gradient Overlay
Satin
Background
LAYERS
Normal
Opacity: 100%
Lock:
Fill: 100%
Wild Type Effectz
Effects
Drop Shadow
Inner Glow
Bevel and Emboss
Gradient Overlay
Satin
Background

FIG 4.5 Click on the Visibility toggle (looks like an eye) to the left of the Effect you want to hide/show in the Style to manage the views in the Layers palette without opening the Layer Style dialog

Saving Styles

If you hit on a style that you want to save and perhaps use in the future, you can save the style. Not only that, you can save Style libraries that you create for specific purposes or to help you manage styles that you find handy. Say, for example, that you like the effect created for the type in Figure 4.1 in the previous section; you can save the effects as a style and store it for future use.

Try It Now: Save a Style

1. Double-click the Effects item in the Layers palette under the layer for the image you were just working on (see Figure 4.6). This will open the Layer Style dialog.
2. Click the New Style button at the right of the Layer Style dialog. This will open the New Style dialog.

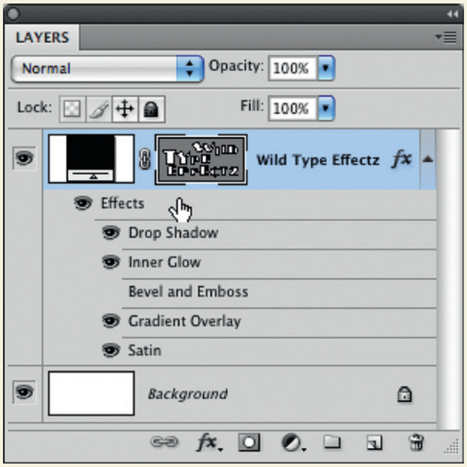
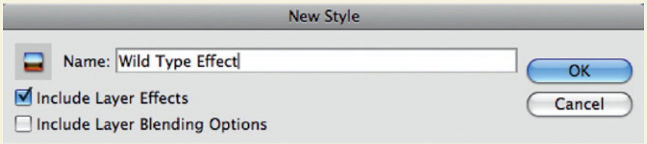

LAYERS
Normal
Opacity: 100%
Lock:
Fill: 100%
Wild Type Effectz
Effects
Drop Shadow
Inner Glow
Bevel and Emboss
Gradient Overlay
Satin
Background

FIG 4.6 Double-click right on the item named Effects in the Layers palette just below the Wild Type Effectz layer to open the Layer Style dialog

3. Name the new style something that you will recognize, and click OK (see Figure 4.7). Options at the bottom of the New Style dialog allow you to save Blending options (Opacity, Blend If, Channel targeting) as well as the effects.



New Style

Name: Wild Type Effect

☑ Include Layer Effects

☐ Include Layer Blending Options

FIG 4.7 Naming the Style may be the most difficult part of this segment of the exercise. Try to make names for your styles that clarify what they achieve, and maybe include the separate Effects or settings in the name

Now that you have stored the style, you can access it from the Styles menu any time you need to and apply it to layers in other images.

Try It Now: Deleting and Applying a Style

1. With the previous image still open, click and drag the Effects item to the Trash at the bottom of the Layers palette (see Figure 4.8). This will remove the effects from the layer.
2. Open the Styles palette and click on the style you saved in the last segment of the exercise (you should be able to locate it by name). This click will apply the style to the active layer.

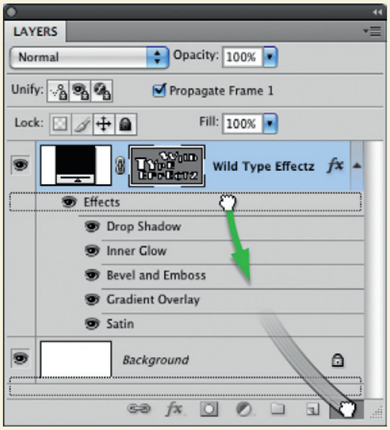


FIG 4.8 Click and drag the Effect item to the trash to remove it from the layer

Take a look at the Layers palette. If you completed the preceding exercises as described, the Bevel effect is included in the saved style, but its visibility is off. In other words, the style is stored exactly as it was when you saved it: an effect within the style is stored even if it was not set to show.

Managing Styles

You can download styles from the Internet and load them into Photoshop to have ready-made styles at your disposal. It is easy to build a library of thousands of freebees by downloading them from the Internet and loading them into Photoshop. But keep in mind that all styles are not created equal. Some designers with experience really know what they are doing and how to have a style render with quality and do very useful things. Don't just download everything in sight, or you will have a huge library that will be so large that it will be impossible to use for practical application.

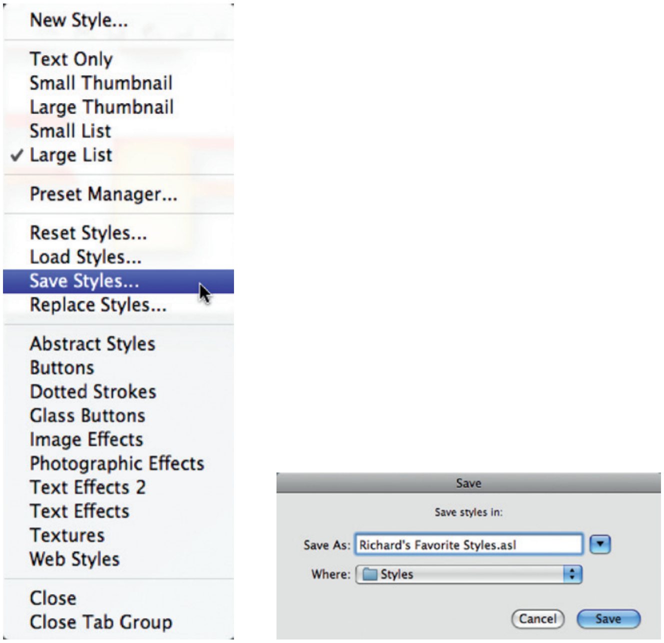
I've included a styles set in the downloads put together by my good friend and Photoshop Styles/Effects master, Al Ward (actionfx.com). You can use this set to practice loading styles and to see the kinds of effects that good styles can produce.

Try It Now: Load New Styles

1. Open Photoshop and be sure you have downloaded the sample styles from the download area for this book.
2. Open the Preset Manager for Styles. You can do this by choosing Preset Manager from the Edit menu and choosing Styles from the Preset Type list or by choosing Preset Manager on the Styles palette menu. If you use the Styles palette menu, the Styles will be preselected.
3. Click the Load button on the Preset Manager screen. This will open a Load dialog (much like a standard Open dialog).
4. Locate the styles file. It will end in the .asl extension. Click the file to choose it and then click the Load button. The styles will populate in the Preset Manager screen.
5. Close the Preset Manager by clicking Done. The styles will be loaded on the Styles palette. You can apply any of the styles with a click. Test some out!

In addition to the Load option described, you also have the option to load by replacing the current styles, which will remove the current styles before loading the library that you pick. To return to the default library of preset styles, choose Reset Styles.

You may want to save style sets in library files so you can be flexible with the styles that you have loaded. Saving will allow you to return to a set should you inadvertently delete it or replace the styles in your palette. To save a Style library, just choose Save Styles from the Styles palette menu. When the Save dialog appears (see Figure 4.9), name the file (leave the .asl extension on the


New Style...
Text Only
Small Thumbnail
Large Thumbnail
Small List
✓ Large List
Preset Manager...
Reset Styles...
Load Styles...
Save Styles...
Replace Styles...
Abstract Styles
Buttons
Dotted Strokes
Glass Buttons
Image Effects
Photographic Effects
Text Effects 2
Text Effects
Textures
Web Styles
Close
Close Tab Group
Save
Save styles in:
Cancel
Save

Save As: Richard's Favorite Styles.asl

Where: Styles

FIG 4.9 It may be best to save to a folder that gets backed up periodically, or to the Photoshop Styles folder inside the Presets folder in the program directory/folder. Click the down arrow to the right of the Save As field to view more options

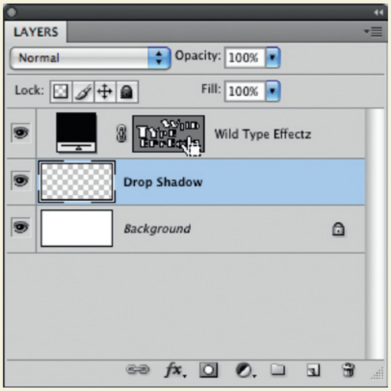
filename), and you can save it anywhere you like. It is probably best to save the .asl files in a place where you are sure to find them, like the Presets>Styles folder in the Photoshop program directory.

Manual Effects

You are not limited to creating effects in your images by using layer styles. Creating similar effects manually offers flexibility that you can't get from applying the canned effects and styles. Let's take a look at how you would create a manual drop shadow.

Try It Now: Making a Manual Drop Shadow

1. Open the Sample_4.1.psd file again. You can Revert to the saved version (File>Revert) if you still have the image open. The point is to start from scratch here with the original image, however you choose to get there.
2. Click on the Background layer in the Layers palette to activate it.
3. Create a new layer and name it Drop Shadow.
4. Hold down the Command/Ctrl key and click on the vector mask thumbnail for the Wild Type Effectz layer. This will load the vector mask as a selection (see Figure 4.10).
5. Fill the selection with Red (RGB: 255, 0, 0). You can do this by setting the foreground color and then using the Paint Bucket tool or with the Fill function (Edit>Fill) with the color set to Foreground. The selection will fill in the active Drop Shadow layer.
6. Deselect (press Command+D/Ctrl+D). If you don't deselect, the selection will contain the action in the steps that follow.



Normal
Opacity: 100%
Fill: 100%

FIG 4.10 Holding down the Command/Ctrl key and clicking the vector mask will load the mask as a selection

7. Apply a Gaussian Blur of 5 pixels. This will soften the edge of the color added in step 5.
8. Change the Opacity of the Drop Shadow layer to 75%. This will lighten the drop shadow.
9. Offset the content of the Drop Shadow layer down and to the right. To do this choose the Move tool (press V), hold down the Shift key, and press the down arrow on the keyboard and then the right arrow. You can use the Offset function instead if you want (Filter>Other>Offset). The result should look something like Figure 4.11. This offset will simulate the angle between the object (in this case, type) and the light source. Holding the Shift key when using the arrows on your keyboard will move the content on the active layer 10 pixels at a time rather than one.

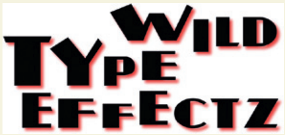


FIG 4.11 The drop shadow is one of the simplest effects to create manually and one that has a variety of uses

All other effects can be created manually using layers, sometimes with steps very similar to those we used in this example. For instance, you can make inner shadows and glows by clicking the Wild Type Effectz layer in step 2, making a Clipping group with the new layer created in step 3, and inverting the selection in step 4.

The real advantage to making effects manually is not simply to duplicate canned effects but so that you can treat the effects like an editable part of the image. For example, say you wanted to paint color into your drop shadow, or if you wanted to distort the shadow so it is not falling on a parallel plain (see Figure 4.12), these things would be much harder to do with layer styles than with freehand effects. You also have freedom of movement and adjustment without having to visit the Layer Styles dialog, and manual effects would allow you to apply layer styles to the layers on which you have created manual effects.

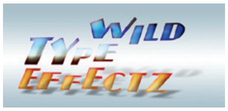


FIG 4.12 The Drop Shadow style makes a simple drop shadow. Manual shadows allow you to be more flexible

You can see from the nine steps above used to create a drop shadow that it probably is not worth the trouble if you can get a similar effect with a one-click layer style. However, there are ways to simplify creating manual effects, and we'll look at that next.

Automated Manual Effects Tools

In the download files, you will find a file named Layer_Effects.atn, which is a set of actions that will create several layer-based effects with a click. The actions are time-savers because they will run through a series of steps that have been prerecorded. For example, the steps above for creating the drop shadow have been recorded for the Drop Shadow/Glow action, and you can replay it with a single click and some minimal user input. First you'll need to load the actions.

Loading Actions

To load an actions file, you need the actions file (.atn) saved somewhere accessible to your computer via the file system. Save the .atn file somewhere such that you can locate it easily. The Presets>Actions folder inside the Photoshop program folder is recommended.

1. Save the actions file on your computer (you can load from a CD/DVD or external drive or network as well).
2. Open the Actions palette in Photoshop (Window>Actions, or press Option+F9/Alt+F9).
3. Choose Load Actions from the Actions palette menu (the menu button is located in the upper right of the palette).
4. Locate the actions file by browsing the file system.
5. Click the .atn file you want to load to choose it.
6. Click the Load button.

The actions will populate in the Actions palette. The actions should appear as depicted in Figure 4.13.

You can also load actions from outside Photoshop by locating the actions file in the file system and opening the file. This will require having .atn files associated with Photoshop.

We load actions several times throughout the book to simplify lengthy procedures and provide tools for completing repetitive tasks, like making manual drop shadows. These steps are in Appendix 1 if you need a refresher on loading actions later.

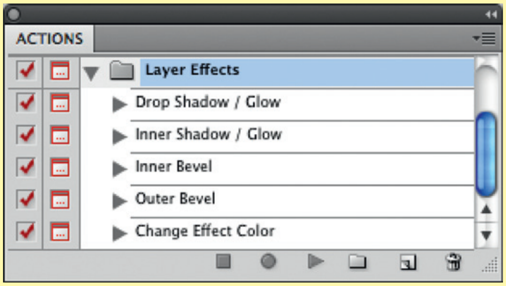


FIG 4.13 You may have other actions in your Actions palette, but Layer Effects will load as an action set, containing Drop Shadow/Glow, Inner Shadow/Glow, Inner Bevel, Outer Bevel, and Change Effect Color

Try It Now: Automating Manual Effects with Actions

1. Start with Sample_4.1.psd. Either open it fresh or revert the file to the original image state (using Revert or image history).
2. Load the Layer_Effects.atn action into the Photoshop Actions palette. You will have to load the actions only once.
3. Set the foreground color to Red (RGB: 255, 0, 0). This color will be used by the action to define the color of the effect.
4. Activate the Wild Type Effectz layer by clicking it in the Layers palette.
5. Run the Drop Shadow/Glow action. To do this, click the Drop Shadow/Glow action in the Layer Effects set on the Actions palette, and then click the Play button at the bottom of the Actions palette (see Figure 4.14).
6. Follow the instructions as they appear on screen. Use the default Offset (110, 110) and change the Gaussian Blur radius to 5 pixels to match the results of the previous exercise. This will create a drop shadow that falls to the lower right.

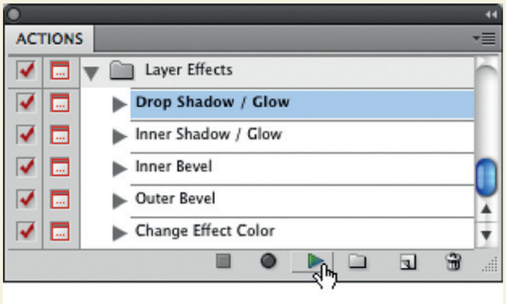


FIG 4.14 Click the Play button at the bottom of the Actions palette to play the active selection

Now that the actions are loaded, the process is several steps easier. In the case of applying a bevel, it is many steps easier. Part of what distinguishes manual effects from layer styles is that you will have a difficult time applying compound effects if you use only layer styles. We'll look at a more complicated example in the next section, which combines layer styles, manual effects, and masking.

Close this image without saving before proceeding.

Combining Manual Effects and Styles

In keeping with the layer mentality, it is sometimes best to apply effects to separate layers rather than all at once as a single style on a single layer. However, there are times when layer styles do everything you need them to and times when you will want to use both manual and canned effects to orchestrate your results.

Say, for example, you want to create an effect on your type so that it looks like the type is transparent. That is, the effects that appear in the background will be seen through the type. You could try reducing the opacity of the layer, but what you'll find is that it reduces the opacity of the effect as well. Combining style and effect application in various ways will help get the desired results.

In this example we will build an effect that looks like translucent type using a combination of layer styles and draw on everything we have touched on so far in this chapter.

Try It Now: Combining Manual and Canned Styles

1. Open the Sample_4.1.psd image again.
2. Click the Wild Type Effectz layer in the Layers palette to activate it.
3. Apply the Type effect saved earlier in this chapter by clicking it in the Styles palette. The exercise had you save it as Wild Type Effect, but you may have used another name. The result for the image and Layers palette should look like the contents of Figure 4.15.

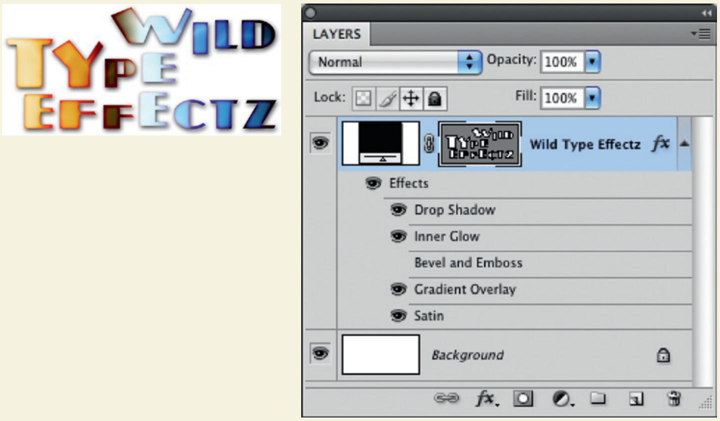
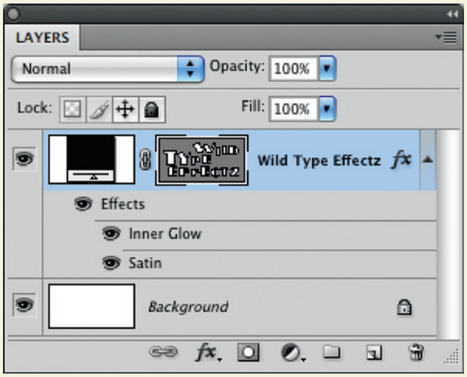


FIG 4.15 After applying the saved style, the image should display the properties inherited from the stored style

4. Drag Bevel and Emboss, Gradient Overlay, and Drop Shadow to the Trash on the Layers palette. This removes the deleted effects from the style as it is applied in the image, and leaves you with only Inner Glow and Satin effects, as in Figure 4.16. The remaining effects make specific results in the image. The Satin will leave a slight sheen on the letters. The Inner Glow provides the reddened edges.

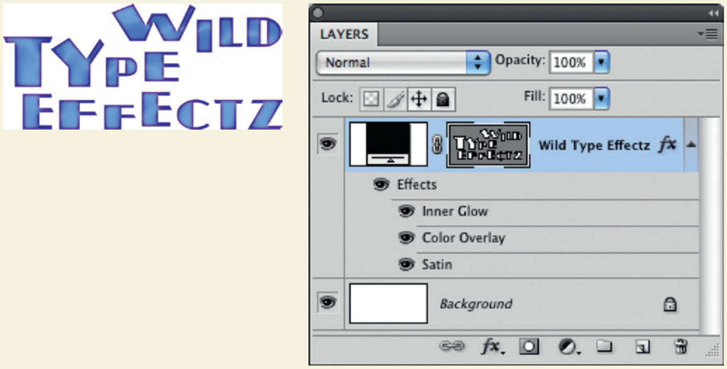


Normal
Opacity: 100%
Fill: 100%

LAYERS
Lock:
Wild Type Effectz
Effects
Inner Glow
Satin
Background

FIG 4.16 After removing the effects, the image will visibly revert to what it looked like when it was opened, but two effects are still being applied – you just can't see them because of the black color of the layer

5. Choose **Color Overlay** from the Add a Layer Style menu at the bottom of the Layers palette. This will open the Layer Style dialog with Color Overlay selected.
6. Double-click the Set Color of Overlay swatch to the right of the Blend Mode drop-down list, and set the color in the Color Overlay to RGB: 110, 170, 240 in the Color Picker when the color picker appears (Figure 4.17). The Color Overlay provides the base color for the effect.

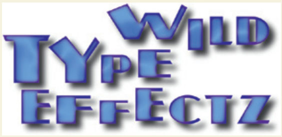


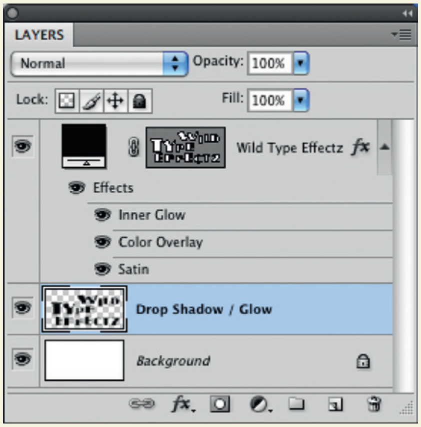
Normal
Opacity: 100%
Fill: 100%

WILD
TYPE
EFFECTZ
LAYERS
Lock:
Wild Type Effectz
Effects
Inner Glow
Color Overlay
Satin
Background

FIG 4.17 The color suggested was sampled from the "I" in WILD in the image after step 3. You should now see the results of all three effects: Inner Glow, Color Overlay, and Satin

7. Change the Foreground color to Black (RGB: 0, 0, 0). This will be used in applying a manual drop shadow in the next step.
8. Apply a manual drop shadow using the Drop Shadow/Glow action provided with the Layer_Effects.atn action set loaded earlier in this chapter. Use an Offset of 120, 120 and a Gaussian Blur of 10 (the default blur). (See Figure 4.18.)




LAYERS

Normal Opacity: 100%

Lock: Fill: 100%

Wild Type Effectz

Effects

Inner Glow

Color Overlay

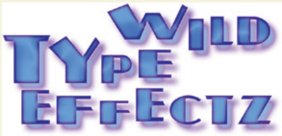
Satin

Drop Shadow / Glow

Background

FIG 4.18 The result at this point shows a plain drop shadow in black, as if the Type object were very much opaque

9. Copy the layer style applied to the Wild Type Effectz layer. To do this on a Windows PC, right-click on the Effects item under the Wild Type Effectz layer and choose Copy Layer Style from the menu that appears. On a Macintosh, hold down the Control key on the keyboard and click the Effects item; then choose Copy Layer Style from the menu that appears.
10. Paste the layer style copied in the previous step to the Drop Shadow/Glow layer. To do this, activate the Drop Shadow/Glow layer, and follow the instructions in step 9, but choose Paste Layer Style. Alternatively you can choose Paste Layer Style from the Layer menu (Layer>Layer Style>Paste Layer Style). Pasting the style applies it to the layer.
11. Shut off the Visibility toggle for the Satin effect on the Drop Shadow/Glow layer, and lower the Opacity of the layer to 70%. This will remove the Satin's sheen from the drop shadow and fade the drop shadow a bit. At this point the results should look like the content of Figure 4.19.
12. Duplicate the Drop Shadow/Glow layer, rename the layer Translucence, and move it to the top of the layer stack. This duplicated layer will be used to make the letters seem translucent.
13. Load the Wild Type Effectz vector mask as a selection. To do this hold down the Command/Ctrl key and click directly on the vector mask thumbnail in the Layers palette. This will be used to mask the translucent effect to the letters only.
14. With the Translucence layer still active, click the Add Layer Mask button at the bottom of the Layers palette. This will use the selection you just loaded to define the mask and target the Translucence layer to the type only.
15. Lower the opacity of the Translucence layer to account for the opacity of the type object. The more you lower the opacity, the more opaque the type will appear (Figure 4.20).



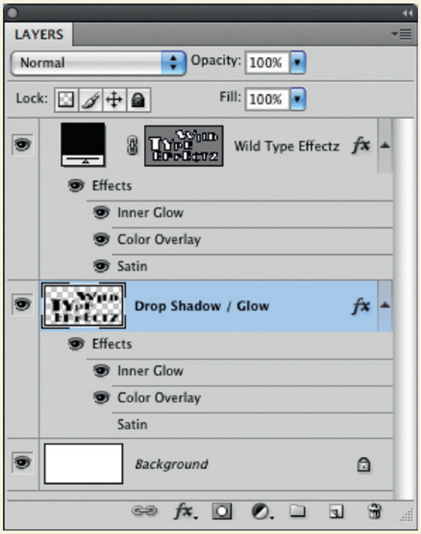
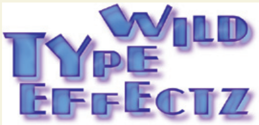

LAYERS
Normal Opacity: 100%
Lock: Fill: 100%
Wild Type Effectz
Effects
Inner Glow
Color Overlay
Satin
Drop Shadow / Glow
Effects
Inner Glow
Color Overlay
Satin
Background

FIG 4.19 Copying the layer style from one layer to another makes sure the settings are similar between the drop shadow and the original object. Only appropriate effects should apply, so the Satin is turned off, as the drop shadow will not reflect the sheen. However, the type is still not acting translucent



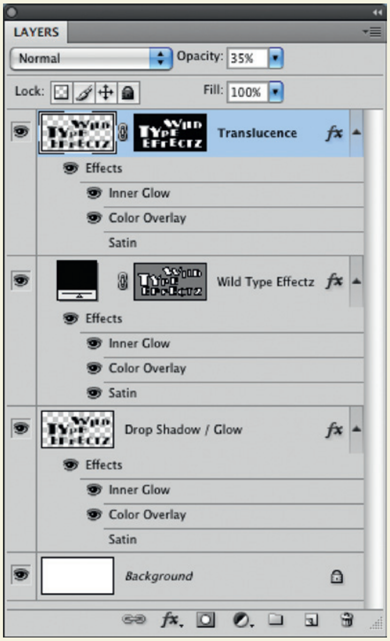

LAYERS
Normal Opacity: 35%
Lock: Fill: 100%
Translucence
Effects
Inner Glow
Color Overlay
Satin
Wild Type Effectz
Effects
Inner Glow
Color Overlay
Satin
Drop Shadow / Glow
Effects
Inner Glow
Color Overlay
Satin
Background

FIG 4.20 Setting the Translucence layer to 35% opacity (half the original 70% opacity of the drop shadow) makes the letters about 50% transparent

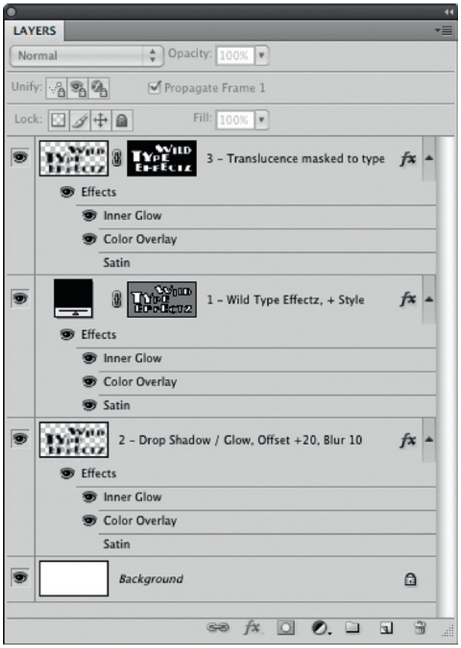
At this point we have successfully combined manual effects and layer styles in a way that would probably be more difficult and more time consuming using either alone. Check your results against the Sample_4.1-transparent.psd file included with the downloads.

Fill versus Opacity

Fill and Opacity seem similar if you don't know exactly what they do. Opacity affects the content of the whole layer: the layer content and the style at the same time; Fill affects only the pixel content of the layer not the styles that have been applied. An example that compares the use can make the difference clearer.

The layer styles do the bulk of the work in this example by simplifying the application and making the result more consistent; but without the help of the manual drop shadow the result becomes more difficult to achieve, as well as less flexible. As with most results in Photoshop it is not a single tool or application that provides the best results, but combinations that effectively blend different tools and techniques.

To finish off the example to conform with the technique of using layers for organization, you may want to add numbers to the layers so that you know what order they were created in. You may also want to add some notes in the layer naming to include the settings used for the offset and blur. With these final additions, the Layers palette would look like that depicted in Figure 4.21.


Normal

Opacity: 100%

Unify: ☑ Propagate Frame 1

Lock: Fill: 100%

3 – Translucence masked to type

Effects

Inner Glow

Color Overlay

Satin

1 – Wild Type Effectz, + Style

Effects

Inner Glow

Color Overlay

Satin

2 – Drop Shadow / Glow, Offset +20, Blur 10

Effects

Inner Glow

Color Overlay

Satin

Background

FIG 4.21 Comments and numbering help round out the Layers advantage

Try It Now: Comparing Fill and Opacity

1. Open the Sample_4.1.psd image one more time.
2. Click the Wild Type Effectz layer to activate it, and choose Outer Glow from the Add a Layer Style menu at the bottom of the Layers palette.
3. When the Layer Style dialog appears, change the Blend Mode to Normal, the Size to 100 pixels, and the color to Red (RGB: 255, 0, 0); then click OK.
4. Go to the Opacity for the layer on the Layers palette and swing the slider from 100 to 0% and back again to 100%. The whole content of the image will fade and return.
5. Try the same thing you did in step 4 with Fill (leaving Opacity at 100%). Only the pixel content of the layer will fade and return; the effect remains the same.

Fill may work to accomplish your goals with effects if you want to apply an effect or style separately from layer content.

Summary

Layer Styles and Effects are layer-specific tools that carry with them a plethora of possibilities. The styles and effects are the tools, but the real catalyst here are layers. Layers are the means by which layer effects and styles can be assimilated and propagated in images for corrective and creative purposes. They are also the means of creating new sources to which additional effects and styles can be applied (such as the shape for the drop shadow and the mechanism for creating translucence).

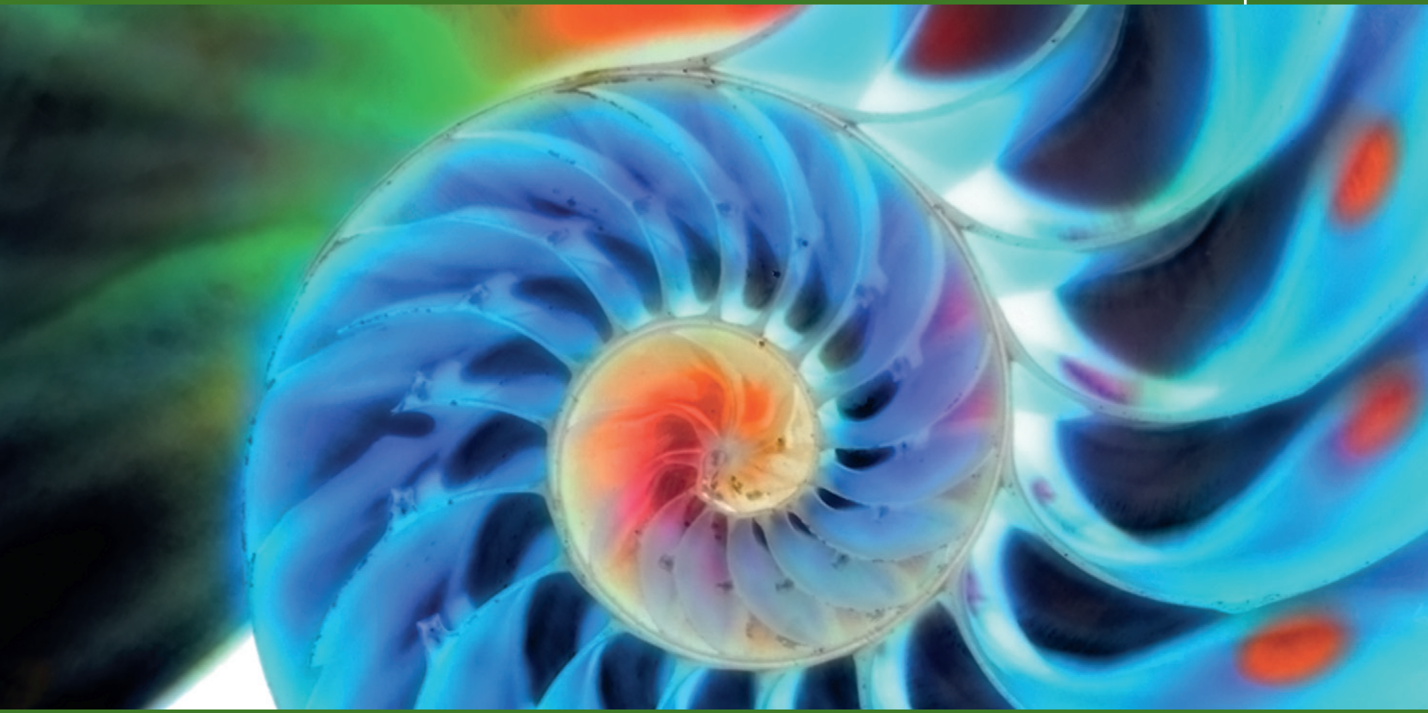
In the seemingly simple examples in this chapter, we have used vector and layer masks, manual and layer-based styles and effects, Visibility toggles, opacity, and modes. The results achieved are not so much an application of any one item as an orchestration of various functions and capabilities that culminate in the result. This is the *modus operandi* for much of Photoshop correction: results are born in the application of tools in unison. Layer styles are a powerful tool in their own right, but will often work best with layer modes. One of the hardest things to envision when using layers may be what Layer Modes achieve. We look at them in the next chapter.

Layer styles can help do many things, from adding a creative frame to an image, to creating text effects, to driving some image enhancements. Things that come to mind as practical corrections are simple exercises in separation in which you add a drop shadow or glow to burn or dodge an edge around an isolated object, or in which beveling or embossing may actually help enhance the contour of a borrowed object.

Creative application of styles, on the other hand, opens endless possibilities. Though not technically "styles," there are examples of applying manual styles throughout this book in various examples. These effects include everything from simple dodge and burn, and application of techniques for soft focus, to more elaborate calculations such as manual sharpening techniques, and beyond. Envisioning the result is the key to success, and layer styles are just another building block to use in achieving your vision.

Please visit http://www.photoshopcs.com for more information and resources for Photoshop Styles. Post your questions on the forum!

CHAPTER 5



Exploring Layer Modes

Layer modes are an enigma. Located in a drop-down list at the top of the Layers palette in a very prominent spot next to Opacity, the positioning suggests that modes are one of the most important tools in the Layers palette – and they are. However, few people know modes well enough to use them effectively.

The misunderstood half-sister of Styles and Filters, Modes proffers little more to most users than another means for experimentation. Like winery visitors lining up at the tasting bar after a tour, users swish and sample anything that gets poured in a glass, hoping something will stand out to their palette – and then spit out what doesn't. This kind of hit-or-miss application is fine, and

The Adobe Photoshop Layers Book.

© 2012 Richard Lynch. Published by Elsevier Ltd. All rights reserved.

can produce pleasant surprises, but it will gobble up huge amounts of your imaging "play" time. Experimentation can be fun, but better understanding of the modes and what they do can turn fruitless experimentation into selective choice. Used correctly, Layer blending modes can be a creative or practical tool for combining and enhancing images and layer content.

It can help to start thinking of modes as making layers into calculators. When a layer is set to a particular mode, the content of the layer acts in that mode on the content of the visible layers below it in the layer stack. The visible result correlates with the cold calculation built into the mode. The whole problem in making calculations work for you is knowing what the calculations do and how they apply to your outline of corrections for the image.

Though it is often what users look for, flat descriptions of the numeric calculations that modes use may be the least helpful means of really understanding what a mode accomplishes. It is often difficult even for the mathematically inclined to envision how a calculation applies as a visual result. Descriptions of the effect may be slightly more helpful, but not entirely intuitive. For that purpose, a complete list of mode descriptions can be found in Appendix 1. A shorter list of those few core modes you will use all the time is found in Table 5.1.

In this chapter, we'll look at using layer modes for everyday image enhancements and improvements, and as a means for you to further leverage layers in targeting your corrections.

Luminosity and Color Modes for Targeted Layer Change

In our discussion of isolating objects and image areas and using masking, we concentrated on simple isolation based on shape and brightness. A whole different realm of isolation can be explored in isolating by qualities in the image, such as color or tone. Layer modes can help make isolation of these qualities possible.

One of the easiest results to digest in working with layer modes is applying Color and Luminosity. If you like the color and not the tone, or vice versa, the modes can isolate the effect of a change to only tone or only color. You can also use modes to isolate content based on those modes. Separation is accomplished quickly with simple layer-based calculations enabled by application of layer modes.

TABLE 5.1 Core Layer Modes

Normal	Normal mode is the default layer mode: a plain overlay of content in the layer. The result takes on the color/tone of the pixels in the layer	Used when you want to see what is in the layer you have set to the mode with no additional calculation. This is the basic, straightforward content representation that you will use for cloning, copy/paste, and compositing
Multiply	Darkens the result by adding the darkness of the multiplying layer to the visible content of layers below. Any tone darker than pure white (RGB: 255, 255, 255) in the multiplying layer darkens the appearance of the calculated result. No portion of the image can get lighter	Used to darken portions of your image. Techniques like burning, shading and shadows, and beveling will use multiply mode. Also useful in color filtering
Screen	Brightens the result by adding the brightness of the Screen layer to underlying content. Any tone lighter than black in the Screen mode layer lightens the appearance of the content below. No portion of the image can get darker	Often used with brightening effects such as dodging, glows, and bevel highlights. Useful in simulating light effects like RGB channel composites
Overlay	Multiplies (darkens) when the overlay layer is dark (darker than 50% gray) and screens (lightens) when the overlay layer on which the mode is applied is light (lighter than 50% gray). Underlying pixel colors at the center of the light and dark range (quartertones at 75 and 25% gray) are affected more than the range extremes (0 and 100% brightness or 50% gray)	Used for contrast and saturation changes. Manual sharpening effects
Soft Light	Similar to Overlay but a weaker application of the tones in the layer on which the mode is applied	Useful in some special effects (soft focus) and for intensifying color and contrast when more finesse is needed than with Overlay mode
Color	Overrides the Hue and Saturation of lower layers based on the content of the color layer, leaving the Luminosity unchanged	Used for color adjustment and layer-based Luminosity and Color separations
Luminosity	Overrides the Luminosity/brightness of lower layers based on the content of the luminosity layer, leaving the Saturation and Hue unchanged	Used for tone adjustment and layer-based Luminosity and Color separations

Flattened images will have a Background layer only. The sample image will be flattened, but one of yours may not be. Flattening is NOT something you will usually do when opening an image, but it will get us on the same page for the exercise.

The difference between virtual and actual image content is that virtual content is a result of a calculation and is not necessarily definitively represented by any one layer. Actual image content is how the content of a layer appears in Normal mode and in the layer palette thumbnail.

Try It Now: Separating Color and Tone

1. Open Sample_5.1.psd image provided with the downloads (see Figure 5.1).
2. Flatten the image, if it is not flattened already (choose Flatten Image from the Layer menu).
3. Create a new, blank layer above the Background layer, and name it **1–50% Gray, Mode Calculator**.
4. Fill the *1–50% Gray, Mode Calculator* layer with 50% Gray (choose Edit>Fill from the program menu; then set the Content Use selector to *50% Gray*).
5. Change the *1–50% Gray, Mode Calculator* layer to Color mode. Your Layers palette should look like Figure 5.2, and the image will become a grayscale representation of the image, as the gray "color" is being applied to the image.
6. Create a new layer at the top of the layer stack and call it **2 – Luminosity**.
7. Press Command+Option+Shift+E/Ctrl+Alt+Shift+E to stamp the visible image to the *2 – Luminosity* layer. This makes a composite of the virtual grayscale calculation so that it is represented in actual pixel content in the layer. You will see the image in grayscale as the *2 – Luminosity* thumbnail.

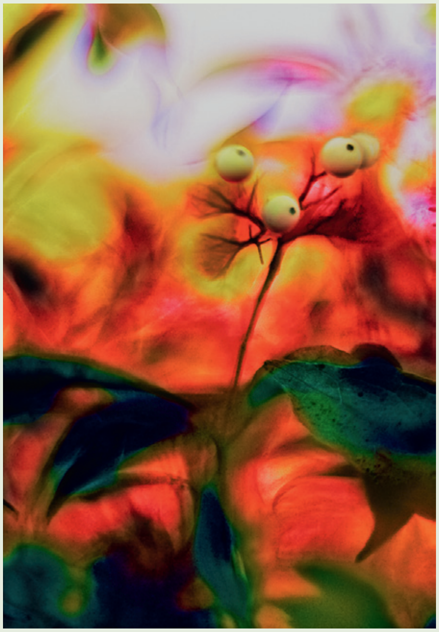
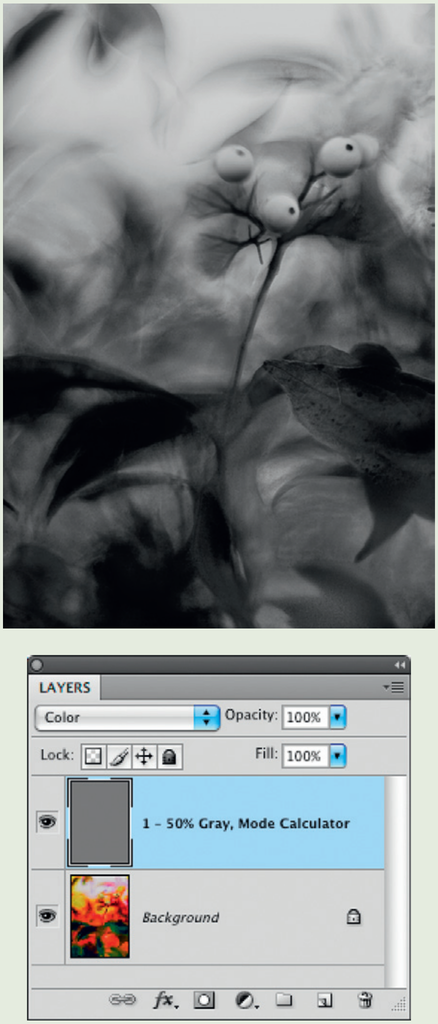


FIG 5.1 Using layers and modes, the tone and color content of this image can be separated and treated individually



Color
Opacity: 100%
Fill: 100%
1 – 50% Gray, Mode Calculator
Background

FIG 5.2 With gray applied as a color the image becomes grayscale

8. Set the layer mode of the 2 – Luminosity layer to Luminosity. This completes separation of the Luminosity component. Nothing will change when you change the mode except that you will be viewing the virtual representation mixing all the layers, instead of the *Normal* mode layer composite.
9. Activate the *1–50% Gray, Mode Calculator* layer by clicking it in the Layers palette. Change the mode to Luminosity. The image will become color again.
10. Create a new layer above the *1–50% Gray, Mode Calculator* layer and name it **3 – Color**.

11. Press Command+Option+Shift+E/Ctrl+Alt+Shift+E to stamp the visible image to the new layer.
12. Change the mode of the *3 – Color* layer to Color.
13. Shut off the view for the *Background* and *1–50% Gray, Mode Calculator* layers. Only the *3 – Color* and *2 – Luminosity* layers will be visible (see the layer setup in Figure 5.3). The image will be as it was in full color from the two distinct components you created.

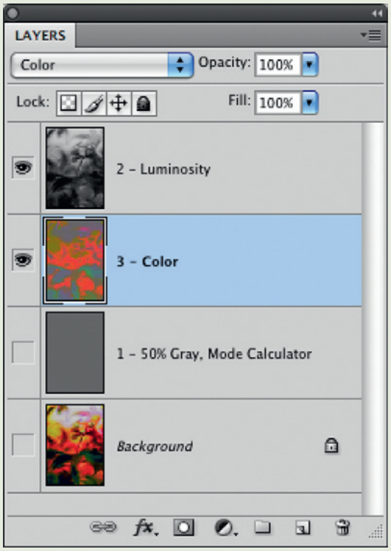


FIG 5.3 With only luminosity and Color layers, the image appears exactly like the original, but defined by separate parts

All that has happened in this example is that you are using Layer Modes to create different views of your image. In this case the views of the new layers substitute for the composite color and tone/luminosity of the Background. The newly isolated components simply represent the image in a different form. Because the modes represent color and tone separately, you now have control over color and tone components separately. In other words, you might apply color correction to the Color layer (e.g., you might apply a Hue/Saturation adjustment that would be isolated to the color) and tone corrections to the Luminosity layer (you might apply a Levels correction to the RGB channel to extend the dynamic range of the tone independent of the color).

This calculation for separation of color and tone will work with any RGB image. Open any image and try out the steps, and then apply isolated color and tone changes to see how it works.

The effect of the separation shows what setting a layer to a particular mode actually does. The layer sets in Figure 5.4 show the difference in the resulting Levels correction. The Levels correction will extend the dynamic range of your image. The layer set with the separated luminosity component will allow changes to the content of the luminosity and will read only the luminosity in the

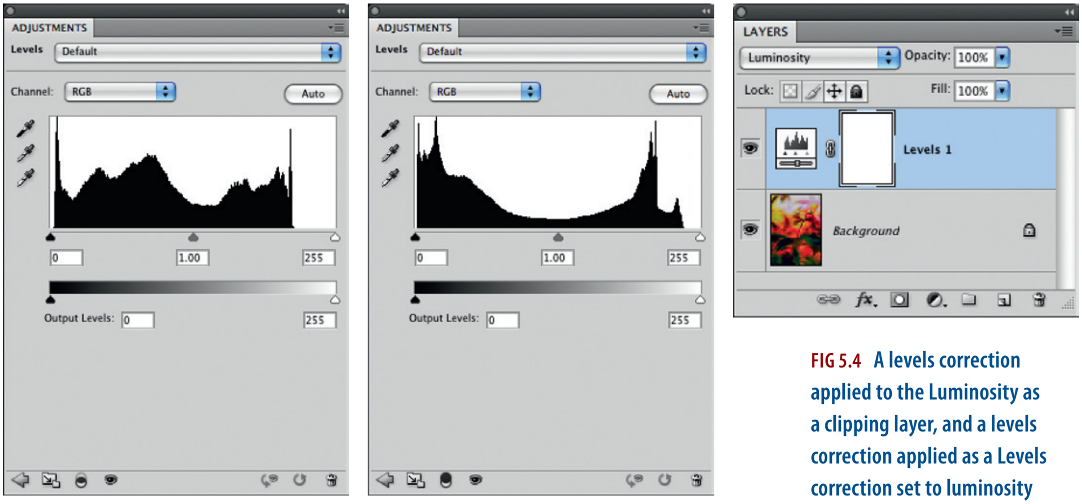

ADJUSTMENTS
Levels
Default
Channel: RGB
Auto
0
1.00
255
Output Levels: 0
255
ADJUSTMENTS
Levels
Default
Channel: RGB
Auto
0
1.00
255
Output Levels: 0
255
LAYERS
Luminosity
Opacity: 100%
Lock:
Fill: 100%
Levels 1
Background

FIG 5.4 A levels correction applied to the Luminosity as a clipping layer, and a levels correction applied as a Levels correction set to luminosity

histogram for a more accurate adjustment. You will also have the opportunity for tone-based sharpening or spot and dust correction. The version with only the Levels set to Luminosity saves file size, but does not offer the proper histogram view or the option of other luminosity adjustments to the pixels.

With the components separated, you also have the opportunity for creative enhancement that goes beyond duplicating what you can do with a mode alone. Starting from where we left off in the previous exercise, you can use the separated color to enhance the color result.

Try It Now: Color Layer Color Enhancement

1. Add a Levels adjustment as a clipping group with the Luminosity layer. Adjust the RGB slider only. Name the adjustment layer **4 – Luminosity Level Adjust**.
2. Duplicate the *3 – Color* layer, and name the new layer **5 – Dupe 3, Overlay**. Make a clipping group from layer *3 – Color* and *5 – Dupe 3, Overlay*.
3. Change the mode of the *5 – Dupe 3* … layer to Overlay, and reduce the opacity until the appearance is pleasing.

Here we've used layer modes to extract separate components for color and tone and to look at exactly what modes can do. But this is just the beginning of color-based separation, isolation of image components, and using them to target change. We'll look at more color separation later in this chapter. Now let's look at layer modes used specifically for the correction and the flexibility they offer, by working with a manual sharpening calculation.

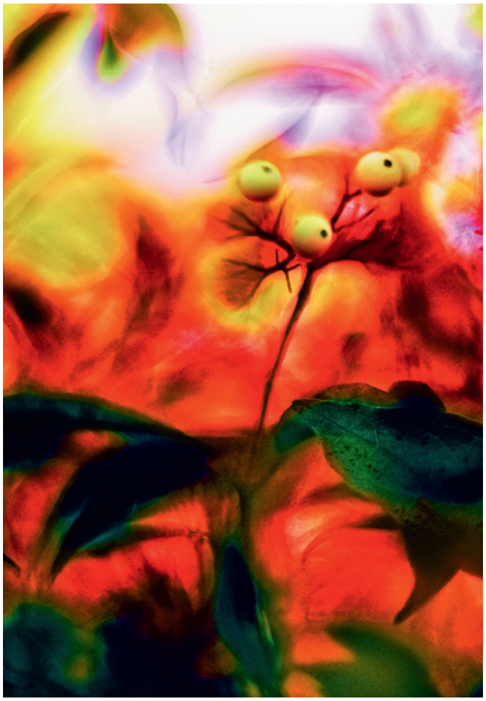
Layer-based Sharpening Calculation with Modes

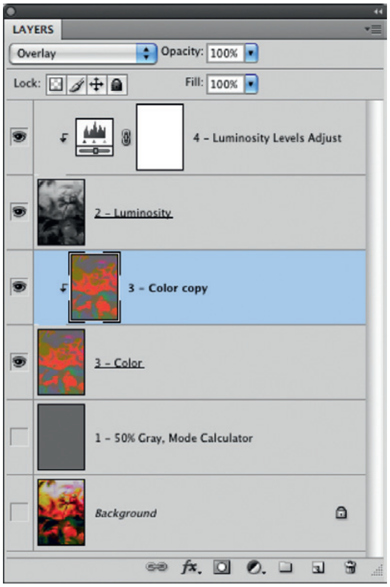
Layer calculations are a means of pitting information in one layer against another and coming to a new result. We just looked at a few ways that can happen in the previous exercises. These results are facilitated by layer modes. But the separation itself is an example of a mode calculation that allowed us to extract Luminosity and Color components from the image using Color and Luminosity layer modes.

Calculations have many creative and interesting uses, most of which are not immediately obvious. One of the first really useful layer calculations I devised after working with several to extract image components (e.g., luminosity, color, RGB channels, CMYK channels) was using layers and modes as calculations to mimic darkroom effects, such as creating a manual unsharp masking effect.

Unsharp masking was a darkroom process before it was ever a Photoshop filter. The photographer developing in the darkroom would sandwich an inverted blurred copy of the image negative with the original to enhance contrast in the exposure of contrasty edges in the image (see Figures 5.5 and 5.6). The blur would target change to image edges to enhance contrast, and the result after the application would be a sharper look

FIG 5.5 The stacking effect allows you to use a mask of the image's existing color to enhance the result





Overlay

Opacity: 100%

Lock:

Fill: 100%

4 – Luminosity Levels Adjust

2 – Luminosity

3 – Color copy

3 – Color

1 – 50% Gray, Mode Calculator

Background

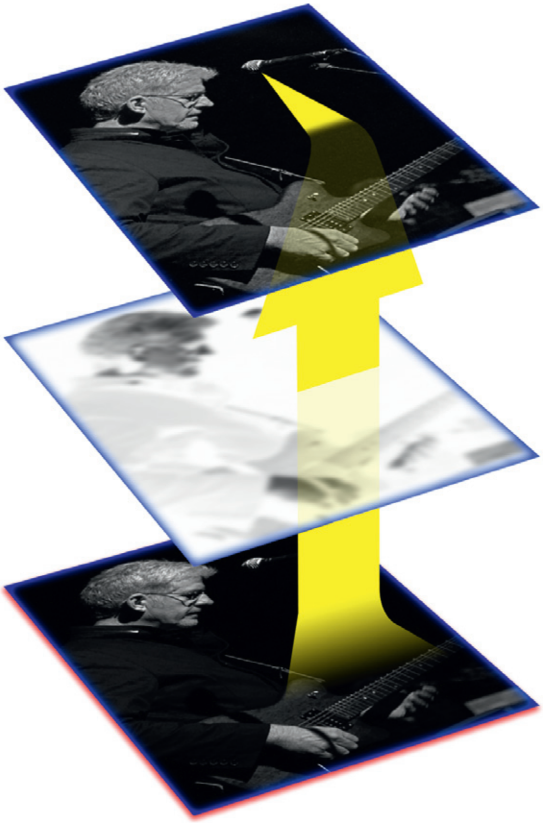


FIG 5.6 The original on the bottom is sandwiched with another inverted, blurred negative to enhance edge contrasts

to the image. It was the mask used to create the effect that was "unsharp," and that is where the name "unsharp mask" comes from.

The layer-based application of an unsharp mask that follows is a little different from the result you'd get in the darkroom or the result you get using the unsharp mask filter, but it is a viable digital alternative that builds on the same concept. We can borrow a little of what we learned in the last exercise to isolate our luminosity and color components and use the theory behind the darkroom version of unsharp masking to create a manual unsharp masking effect.

Try It Now: Manual Unsharp Masking with Layer Modes

1. Open a flattened image or use Sample_5.2.psd (shown in Figure 5.7).
2. Separate the tone. For this you want to follow just the Luminosity part of the Luminosity and Color Separation.
    a. Create a new, blank layer above the Background layer, and name it **1–50% Gray, Mode Calculator**.
    b. Fill the *1–50% Gray, Mode Calculator* layer with 50% Gray.

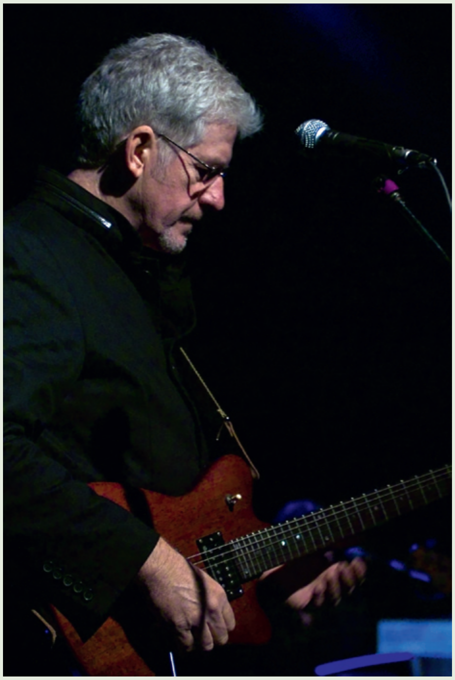
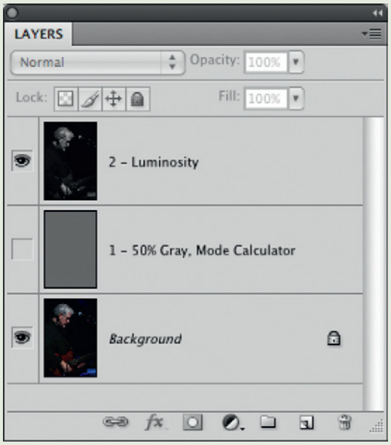


FIG 5.7 Roger Steen of The Tubes during concert warmup in Niagara Falls, NY. There are details in the shadows that can be extracted with proper technique

   c. Change the *1–50% Gray, Mode Calculator* layer to Color mode.
   d. Create a new layer at the top of the layer stack and call it **2 – Luminosity**.
   e. Press Command+Option+Shift+E/Ctrl+Alt+Shift+E to stamp visible to the *2 – Luminosity* layer.
   f. Shut off the view for the *1–50% Gray, Mode Calculator* layer. At this point your layers should look like the content of Figure 5.8.
   g. Change the *2 – Luminosity* mode to Luminosity.
3. Create the unsharp mask from the *2 – Luminosity* layer.
   a. Duplicate the *2 – Luminosity* layer and name the new layer **3 – Unsharp Mask**.
   b. Change the mode of the *3 – Unsharp Mask* layer to Overlay.
   c. Change the Opacity of the *3 – Unsharp Mask* to 50%.
   d. Invert the content of the *3 – Unsharp Mask* layer (press Command+I/Ctrl+I). This layer now acts as the inverted negative.
   e. Blur the *3 – Unsharp Mask* layer using Gaussian Blur. For the sample_5.2.psd image use 10 pixels radius for the blur.

The size of the blur that you want to use will depend on the resolution of the image, and busyness or the amount of detail. The more busy and detailed the image, the less blur; the higher the resolution, the greater



LAYERS

Normal Opacity: 100%

Lock: Fill: 100%

2 – Luminosity

1 – 50% Gray, Mode Calculator

Background

FIG 5.8 The *2 – Luminosity* is holding the actual tone as it is in Normal mode. The role that the layer plays in the image changes when you change the mode to Luminosity

the blur. Start with a 15-pixel radius for a 3″ × 5″ image at 300 ppi (900×1500 pixels); use a greater radius for larger images. You can preview the changes as you move the slider.

The Unsharp Mask affects the contrast of object edges based on the content of your image. Tones at the extremes (absolute white, absolute black) and middle (50% gray) are less likely to change than the quartertones (75 and 25% gray). This can keep you from harming the detail in your image and will not be as likely to cause the type of halo you can get with Photoshop's Unsharp Mask filter. The color is held by the Background layer and reacts to the corresponding change in tone. The tone is the result of the Background layer tone as affected by the Unsharp Mask layer calculation.

The Unsharp Mask layer you have created ends up working in a similar way to the sandwiched negative used in the darkroom process. The image contrast in the quartertones pulls details from shadows and highlights, as global contrast moves toward neutral grays, and saturation appears to increase. Unsharp Mask pushes dark areas darker and light areas lighter, sometimes leading to a loss of detail (blowing out or blocking up image areas). If the Unsharp Mask layer content were not inverted, it would increase image contrast more like the Unsharp Mask filter. Because of the nature of Overlay mode, the result will not tend to blow out (move bright areas of the image to absolute white RGB: 255, 255, 255) or block up (move shadow areas of the image to RGB: 0, 0, 0), as the Unsharp Mask filter can easily do.

Neither the Unsharp Mask Filter nor the manual unsharp method here are masks in the traditional sense of a layer mask; however, the technique of inverting, blurring, and setting the mode (Overlay) effectively makes the content self-masking to target the desired effect. Because the effect of this manual unsharpening procedure is different than that of the Unsharp Mask filter, the manual unsharp effect and the Unsharp Mask filter effect can be used together. Using them in tandem, you can intensify edge contrast changes and apply more sharpening than can be achieved with the Unsharp Mask filter alone.

As defined here, the effect of the manual unsharp mask is confined to the tone, and the change in color is circumstantial because of the change in tone. If you would want to use an adjustment to control the color as well, you would do the following to achieve what we did in the previous exercise:

a. Create a Color layer using the Luminosity and Color separation techniques, and name it **4 – Color**.
b. Duplicate the *4 – Color* layer, and name it **5 – Color Enhancement**.
c. Create a clipping group from *4 – Color* and *5 – Color Enhancement*.
d. Set the *5 – Color Enhancement* layer to Overlay mode and reduce the opacity to 50%. The layers should look like those shown in Figure 5.9.

You can affect the balance of the sharpening effect and saturation as desired by changing the opacity of the *3 – Unsharp Mask* and *5 – Color Enhancement*. Reducing the opacity of the layers will reduce their effect. If you needed to lower the saturation in the image or raise the contrast, you would invert the *3 – Color Enhancement* or *5 – Color Enhancement* layer (Image>Adjustments>Invert), and set the opacity to 0%. Increase the layer opacity to apply the inverse effect.

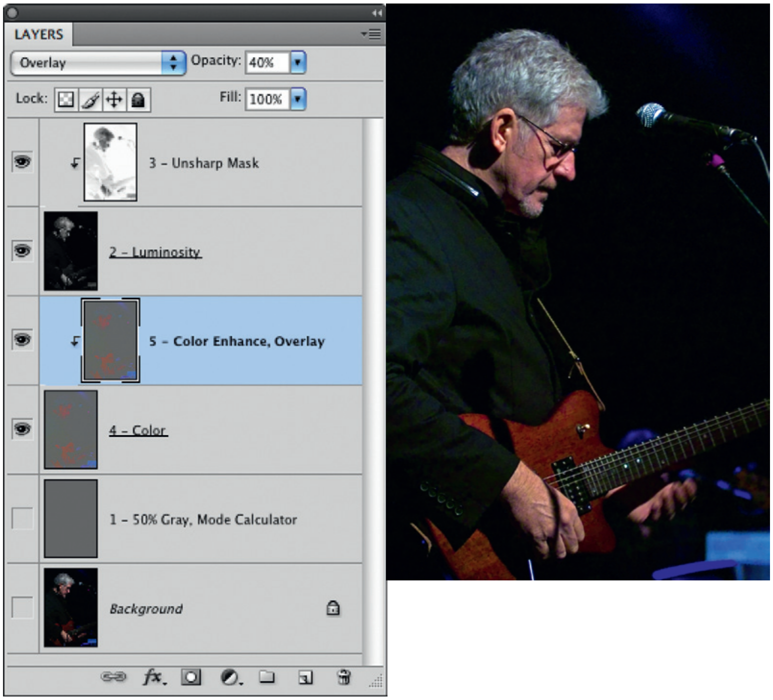


FIG 5.9 This enhances the color to bring back some of the density lost by the tone adjustment during sharpening

Overlay
Opacity: 40%
Fill: 100%

The specific effect aside, you have successfully used Layer Modes to perform a very complex calculation to enhance the information in the image and simulate sharpening, and/or color enhancement. These useful techniques can be replicated with any image following these instructions. You can use the adjustment and opacities to raise and lower edge contrast as well as control saturation of color.

What I like most about these layered calculations is that they are self-masking: the content you are using to perform the adjustment is the content on the image itself. Your masks can be no more targeted than that.

Breaking Out Components

Image components are separations of an image into distinct color or tone parts based on color models. We looked at separating an image into brightness (luminosity) and color in the last section, but there are many ways to separate images into other types of components, including color components of light (red, green, and blue) and ink (cyan, yellow, magenta, and black). Separating images into components can offer advantages in making corrections, such as creating masks, setting up calculations, and converting images to black and white.

Separations provide an essential understanding of how images are composed, stored, and viewed. Being able to work with color components directly as separations is nearly the exclusive reason for channels – to which Adobe has dedicated an entire palette in Photoshop. When the Photoshop user learns to look at channels as component parts of images in the same context as layers (rather than as part of a separate palette), he or she gains many times the potential flexibility. Working with channels/components in layers leads to a better understanding of how they fit into images and how they can be used directly in corrections rather than reaching to a separate part of the interface.

An Historic Interlude

One of my favorite digital lessons is learned from taking a set of black-and-white images created before there was color film and making a color representation of the image. A special case is the photos of one Russian photographer, Sergei Mikhailovich Prokudin-Gorskii.

You can find digitized images from Prokudin-Gorskii's images in several libraries online:

http://www.cs.cmu.edu/~dellaert/aligned/
http://www.loc.gov/exhibits/empire/

Using a special camera that he designed, Prokudin-Gorskii captured images on glass plates three at a time (it is said in rapid succession, rather than all at once). During the capture, color filters separated red, green, and blue color components to different areas of the plate. The result was a single plate with black-and-white representations of the image's core light components (see Figure 5.10).

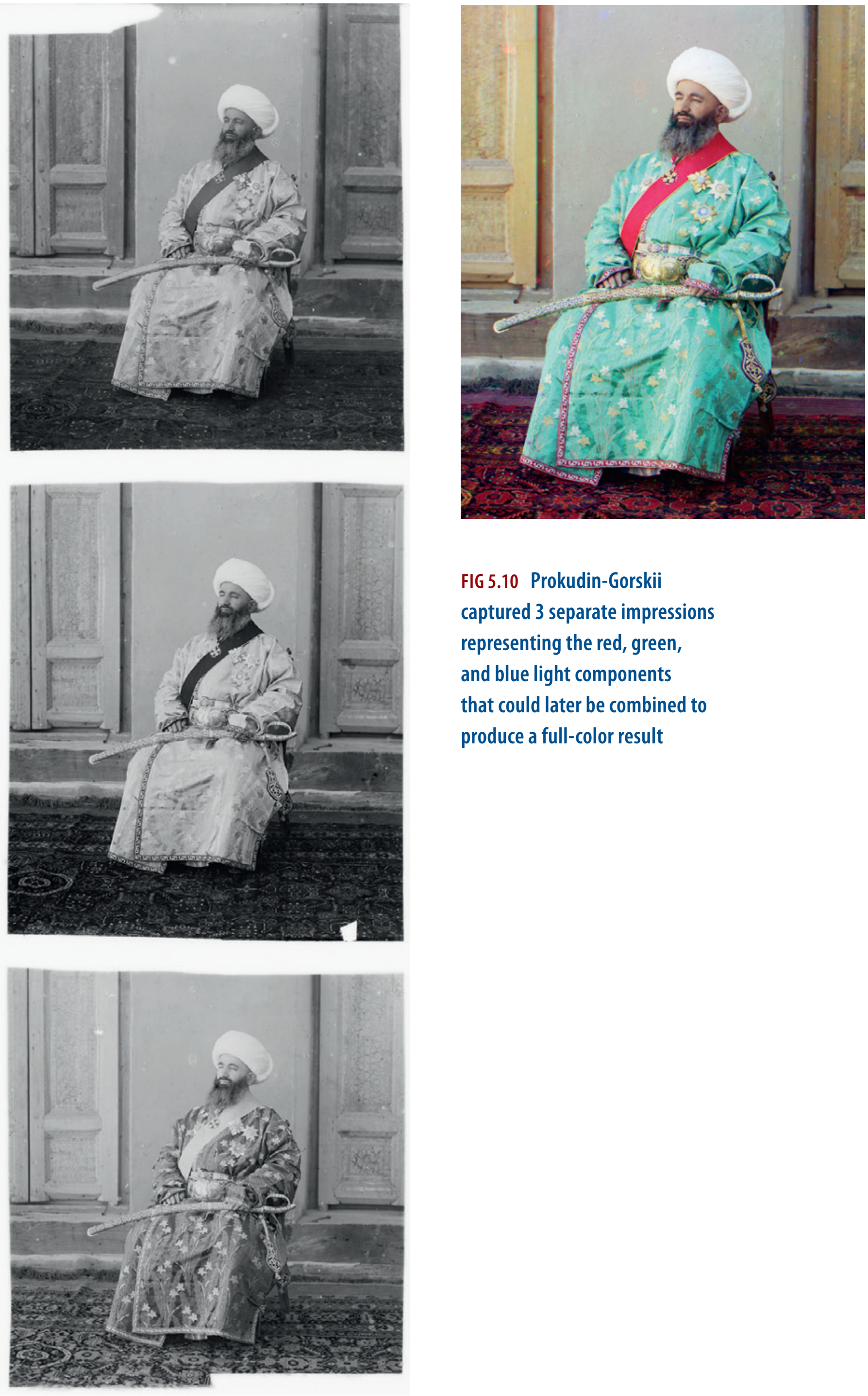


FIG 5.10 Prokudin-Gorskii captured 3 separate impressions representing the red, green, and blue light components that could later be combined to produce a full-color result

The solution still offered only black-and-white representations of the RGB channels, was a bit awkward, and required a customized projector to reproduce the color. But really these first color captures mimic what digital cameras do even today, separating and storing color in red, green, and blue light components. About 100 years after they were taken, Prokudin-Gorskii's images can define full-color representations of his photos using Photoshop to re-assemble the red, green, and blue content.

Color printing provided its own challenges when it came to reproducing color and light. Light that we see in our environment is additive (more light becomes brighter) where the idea of printing – while still based on light – is essentially the opposite (more ink absorbs more light, and what we see is darker). White in printing is represented by no ink on white paper. White is only as bright as the paper. That is the start of the problem. If the paper is yellowish, white can only be so white. If the inks are not efficient and do not absorb all the light, black can only be so black. The brightness of the paper, color of the paper, efficiency of the absorption of the ink, and ink coverage all affect the result that we can see in print. As light is additive and ink is subtractive (or absorptive of light) the color we use for print is really the opposite of what you would use in RGB. That is where CMY (cyan, yellow, and magnta) comes from (Figure 5.11). K, or black, is added to aid in the absorptive efficiency of the inefficient inks.

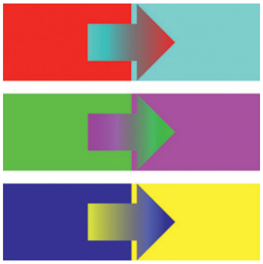


FIG 5.11 If you invert R, G, B, you get C, M, Y

Working with separations provides some valuable background for what we've already been doing in correcting for different components of light (with Levels). It also opens doors to additional techniques for working with color and black-and-white images.

Extracting RGB Components

The concept of RGB and the idea that an entire world of color can be stored in combinations of three colors really doesn't seem plausible until you see it at work. That is, the 16 million color variations in 8 bits per channel and 35 billion in 16 bits per channel are all produced from the capture of red, green, and blue core light components – in black and white.

In the following short example, we'll look at taking an image apart into red, green, and blue light components.

Try It Now: RGB Light Separation

1. Open the Samples_5.3.psd image from the download files. (See Figure 5.12.)
2. Create a new layer, name it **1 – Filter**, and change the Mode to Multiply.
3. Fill the *1 – Filter* layer with pure Red (RGB: 255, 0, 0). This will turn the image red and represents the red light component.

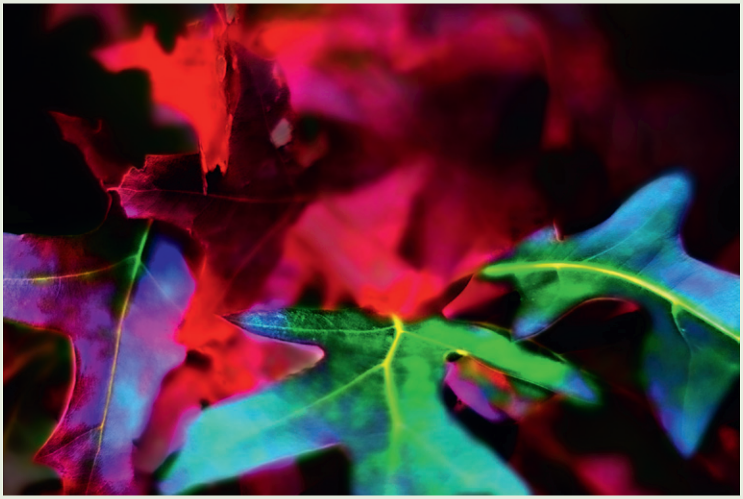


FIG 5.12 This colorful image serves as a great place to start a color separation

4. Create a Hue/Saturation Adjustment layer (above the Red Filter layer in the Layers palette) and call it **2 – Neutralizer**. Choose Reds from the Edit drop-down list and push the Lightness slider all the way to the right. You will be left with a grayscale representation of the red light component. Your layers should look like those in Figure 5.13.

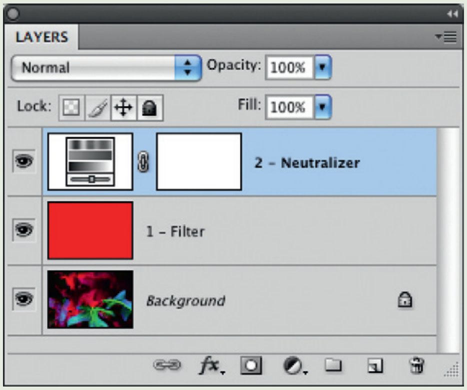


FIG 5.13 The 2 - Neutralizer layer will be used for several purposes

5. Press Command+Option+Shift+E/Ctrl+Alt+Shift+E to copy the visible image to a new layer. Name the new layer **3 – Red**.
6. Shut off the view for the 3 – *Red* layer.
7. Click directly on the *1 – Filter* layer thumbnail to activate the layer.
8. Choose Hue/Saturation from the Adjustments sub-menu on the Image program menu (Image>Adjustments>Hue/Saturation).
9. Push the Hue slider to +20 (or type *120* into the Hue field) and click OK to accept the change. The color in the filter layer will shift to Green (RGB: 0, 255, 0).

NOTE: The change in the slider position adjusts the color 1/3 the way around the 360° color wheel. It is the same as if you filled the layer with pure green. This is one of the few times I will make a change like this directly to a layer.

10. Click the icon for the Hue/Saturation layer to display the Adjustments.
11. Choose Greens from the drop list, and push the Lightness slider all the way to the right. This will display a grayscale representation of the green light component.
12. Press Command+Option+Shift+E/Ctrl+Alt+Shift+E to copy the visible image to a new layer. Name the new layer **4 – Green**.
13. Shut off the view for the *4 – Green* layer.
14. Click directly on the *1 – Filter* layer thumbnail to activate the layer.
15. Choose Hue/Saturation from the Adjustments sub-menu on the Image program menu (Image>Adjustments>Hue/Saturation).
16. Push the Hue slider to +120 and click OK to accept the change. The color in the filter layer will shift to Blue (RGB: 0, 0, 255).
17. Click the icon for the Hue/Saturation layer to display the Adjustments.
18. Choose Blues from the drop list, and push the Lightness slider all the way to the right. This will display a grayscale representation of the blue light component.
19. Press Command+Option+Shift+E/Ctrl+Alt+Shift+E to copy the visible image to a new layer. Name the new layer **5 – Blue**.

After these steps you should have *3 – Red*, *4 – Green*, and *5 – Blue* layers in your image, representing grayscale RGB components extracted from the original image. The layers should look like those shown in Figure 5.14.

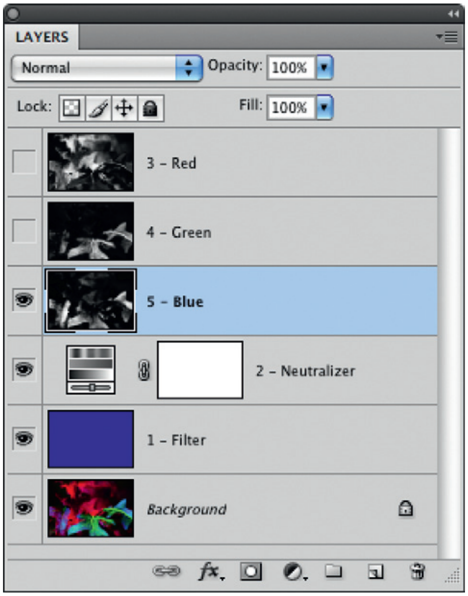


FIG 5.14 The color components are separated here into the black-and-white representations

To really see the grayscale at work, your next chore is to add the color back to the components to create a color representation while keeping the grayscale components separate. There are a few different ways to go about this. The quickest method is to make each component affect only its own light.

Try It Now: RGB Black-and-white As Color

1. Shut off the view for the *Background*, *1 – Filter* and *2 – Neutralizer* layers.
2. Turn on the views for the *3 – Red*, *4 – Green*, and *5 – Blue* layers.
3. Double-click the thumbnail for the *3 – Red* layer. When the Layer Style dialog appears (see Figure 5.15), uncheck the Green and Blue channels and click OK. This will target the content of the layer to affect only the red light.
4. Double-click the thumbnail for the *4 – Green* layer. When the Layer Style dialog appears, uncheck the Red and Blue channels and click OK. This will target the content of the layer to affect only the green light.
5. Double-click the thumbnail for the *5 – Blue* layer. When the Layer Style dialog appears, uncheck the Red and Green channels and click OK. This will target the content of the layer to affect only the blue light.

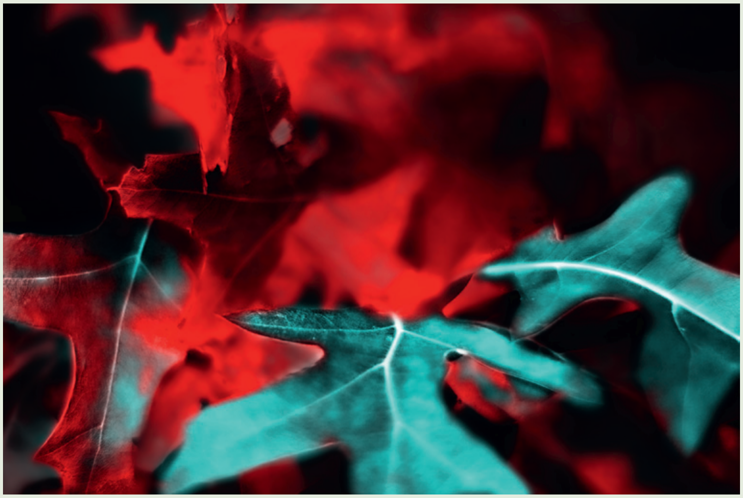
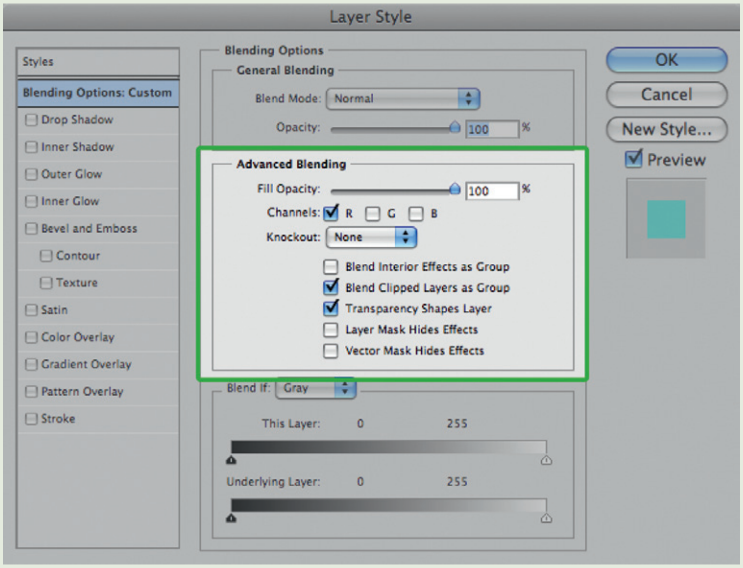


FIG 5.15 You will begin to see some color . . . but keep going


Layer Style
Styles
Blending Options: Custom
☐ Drop Shadow
☐ Inner Shadow
☐ Outer Glow
☐ Inner Glow
☐ Bevel and Emboss
☐ Contour
☐ Texture
☐ Satin
☐ Color Overlay
☐ Gradient Overlay
☐ Pattern Overlay
☐ Stroke
OK
Cancel
New Style...

Blending Options
General Blending
Blend Mode: Normal
Opacity: 100 %
Advanced Blending
Fill Opacity: 100 %
Channels: ☑ R ☐ G ☐ B
Knockout: None
☐ Blend Interior Effects as Group
☑ Blend Clipped Layers as Group
☑ Transparency Shapes Layer
☐ Layer Mask Hides Effects
☐ Vector Mask Hides Effects
Blend If: Gray
This Layer: 0 255
Underlying Layer: 0 255
☑ Preview

FIG 5.15 (continued)

At this point the color will be restored to the image. The most curious part of that is, there is no color apparent and visible in the layers. Here we have taken apart and put back together your color images – in a fashion nearly identical to the way your images are separated into components and stored on your camera and in image files. The color is reproduced from the grayscale representations of light.

Breaking out color components into layers is a very advanced move, and may be something you won't do very often. Understanding it should give you several things, including a good idea of the peripheral power of layers and a good concept of how image information is captured and stored. While it is an interesting and informative exercise to separate out components, it is a bit of bother. To make it easier, there are some tools included in the downloads to do it for you. If you load the Separations.atn action set, you will have access to all of the actions in the Separations.atn Action Set sidebar.

The Separations.atn Action Set

- Complete RGB Separation (duplicates the current image and makes a complete RGB separation following yet another path to separations)
- Blue Component (duplicates the current image and separates out a standalone Blue Component layer)
- Green Component (duplicates the current image and separates out a standalone Green Component layer)

- Red Component (duplicates the current image and separates out a standalone Red Component layer)
- Luminosity and Color (duplicates the current image and separates out Color and Luminosity layers)
- Complete CMYK Separation (duplicates the current image and makes a complete CMYK separation)
- RGBL Components (duplicates the current image and separates out Red, Green, Blue, and Luminosity layers)
- Richard's Custom Black-and-White (duplicates the current image and creates a black-and-white result that works well with many images)
- Simple Channel Mixer (duplicates the current image and sets up a layer-based channel mixing scenario)
- Target Red (targets the current layer to the Red channel, unchecks boxes in the Advanced Blending for Green and Blue)
- Target Green (targets the current layer to the Green channel, unchecks boxes in the Advanced Blending for Red and Blue)
- Target Blue (targets the current layer to the Blue channel, unchecks boxes in the Advanced Blending for Red and Green)
- Target RGB (resets all Advanced Blending channel checkboxes to checked)

It will probably not be at all clear what you do with your knowledge of separations. Follow along into the next section, in which we look at using them. Load the actions now so you are ready to go in the next exercise!

Using Separations

Grayscale channels can be used for a variety of highly specialized purposes. First, you can target changes directly to any one of the RGB components using Adjustment layers in Clipping groups with specific layer color components (red, green, or blue; not the Filter layers). Components can be used for masking, selection, and a plethora of alterations, with a freedom in layers that is not accessible to you with channels and channel functions.

Probably one of the most useful and practical applications of separated components is making custom black-and-white conversions. Many people will suggest turning to Channel Mixer, the Black & White function, or perhaps Calculations. The thing each of these functions has in common is that they use separated components to create the image results. However, because these features are predefined, there are inherent limitations to the ways they can be combined. You can't, for example, use any of these functions to create a calculation with three components of your choosing in different modes simultaneously. Layer-based separations, calculations, and channel mixing allow you complete freedom to use the power of layers however you'd like. Let's test it out now.

Try It Now: Using Separations for Better Black-and-white

1. Open the Sample_5.4.psd image from the downloads (see Figure 5.16).
2. Run the RGBL Components action in the Separations action set (included with the downloads for the book; download and install if you have not already). This action will run through a series of steps similar to those we have been following and will create red, green, blue, and luminosity components for the image in separate layers (Figure 5.17).
3. Shut off the view for the Luminosity, *Red Component*, and *Blue Component* layers in the Layers palette. This leaves the view for the *Green Component* layer. Your layers will look like those shown in Figure 5.18.

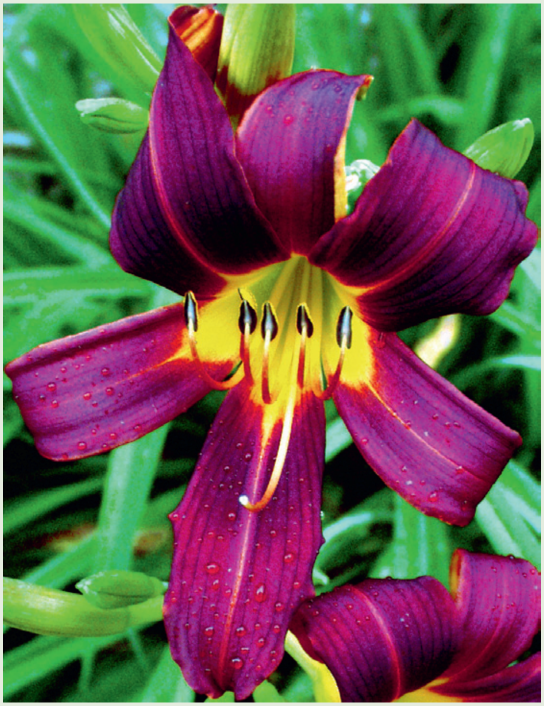


FIG 5.16 This image can be converted to black-and-white in a variety of ways and is good for experimentation

4. Move the Red Component layer above the *Green Component* layer in the layer stack.
5. Change the mode of the *Red Component* layer to Lighten, and lower the opacity to 60%. This will lighten the flower petal area without a significant impact on the area surrounding the flower, as the area around the flower is much lighter in the Green Component layer.

The green component is close to how humans perceive brightness, so that is why it is selected as a starting point in this example. Evaluating the image overall, the flower petals are dark and may have more interesting presence in the result if they had a bit more of the character of the red component. The *Red Component*, is bright in the petal areas but dark in the surrounding greenery (to view the red separately, turn off the visibility toggle for the *Green Component* layer), and be sure the toggle for the *Red Component* layer on), is light in the petal areas but dark in the surrounding greenery. With almost natural masking, the petals can easily be lightened using the Red Component layer. The blue component has some unique dynamics that can help add some contrast. The Luminosity layer, being a straight representation of tone, can help keep the adjustment grounded.

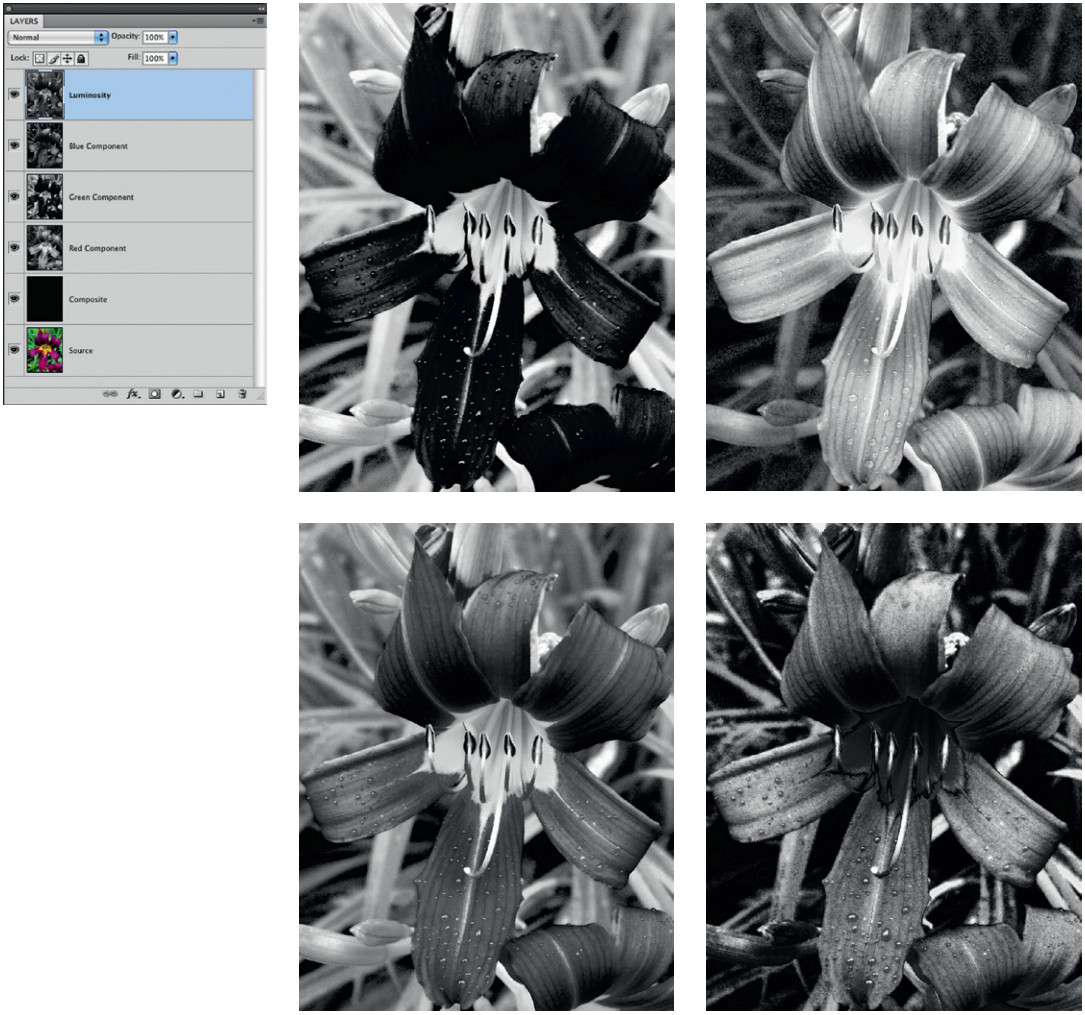
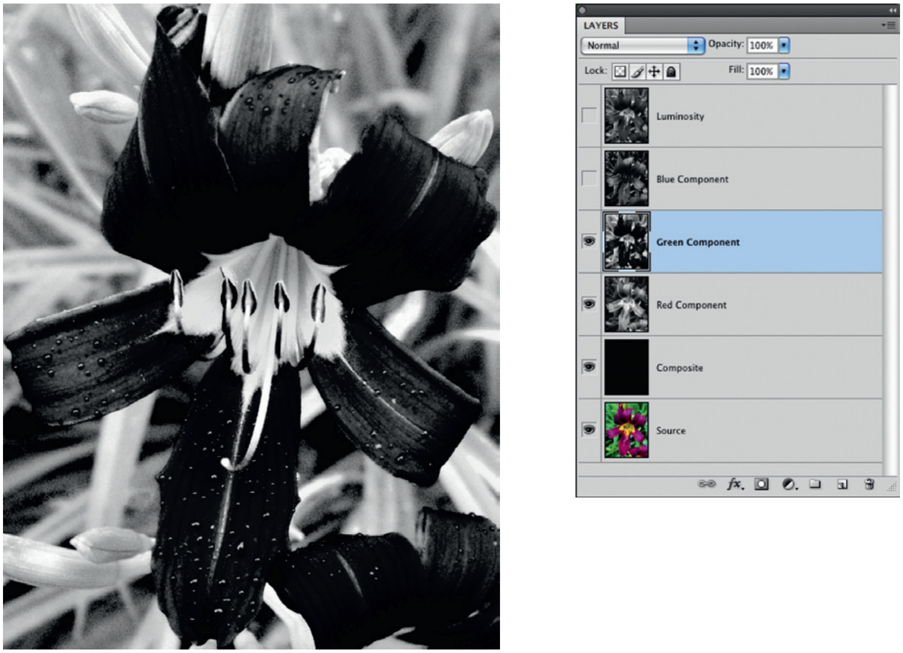

LAYERS
Normal
Opacity: 100%
Lock:
Fill: 100%
Luminosity
Blue Component
Green Component
Red Component
Composite
Source

FIG 5.17 Running the RGBL action will create red, green, blue, and luminosity components from the current image that you can then use to create a unique black-and-white conversion

6. Turn on the Visibility toggle for the Blue Component layer, change the Mode of the *Blue Component* layer to Overlay, and reduce the opacity to 15%.
7. Duplicate the Green Component layer, name the resulting layer **Green Component, Screen**, change the opacity to 70%, and be sure the Mode is Screen. This will lighten the area around the petals to create greater contrast.
8. Turn on the Luminosity layer, and change the opacity to 33%. This will moderate some of the extremes that may have been caused by other calculations (see the result in Figure 5.19).



LAYERS

Normal

Opacity: 100%

Lock:

Fill: 100%

Luminosity

Blue Component

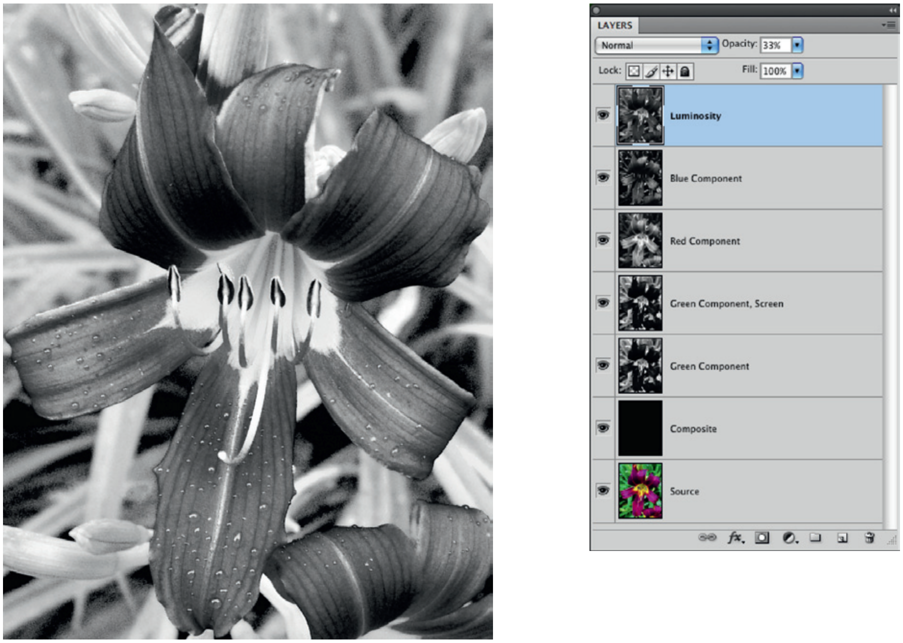
Green Component

Red Component

Composite

Source

FIG 5.18 With the other layer views switched to off, the green channel content will appear by itself as it is the upper layer and in Normal mode



LAYERS

Normal

Opacity: 33%

Lock:

Fill: 100%

Luminosity

Blue Component

Red Component

Green Component, Screen

Green Component

Composite

Source

FIG 5.19 The layers and result of the previous steps should produce a fair tonal representation of the image based on how humans see light

These steps combine components in a way that experience has shown will render a better general conversion for almost any image from RGB to grayscale. This particular combination is one developed after considering light and color theory, but it is only one of the infinite possibilities for combining tone. As a conversion, it works fairly consistently over a wide variety of images to produce a pretty good black-and-white image. Give it a try on any color RGB image. I start with this combination as a base, and then make further adjustments. You can repeat this whole series of steps by using Richard's Custom Black-and-White action from the Separations action set.

You may want to play around with the opacity and modes of the component layers both to explore what is going on and to see if you can come to a "better" result. You can fine-tune or completely change the result to your preferences using layer opacity, additional component layers, and different layer-blending modes. You may also recognize a noise issue that you can solve with techniques from earlier in the book!

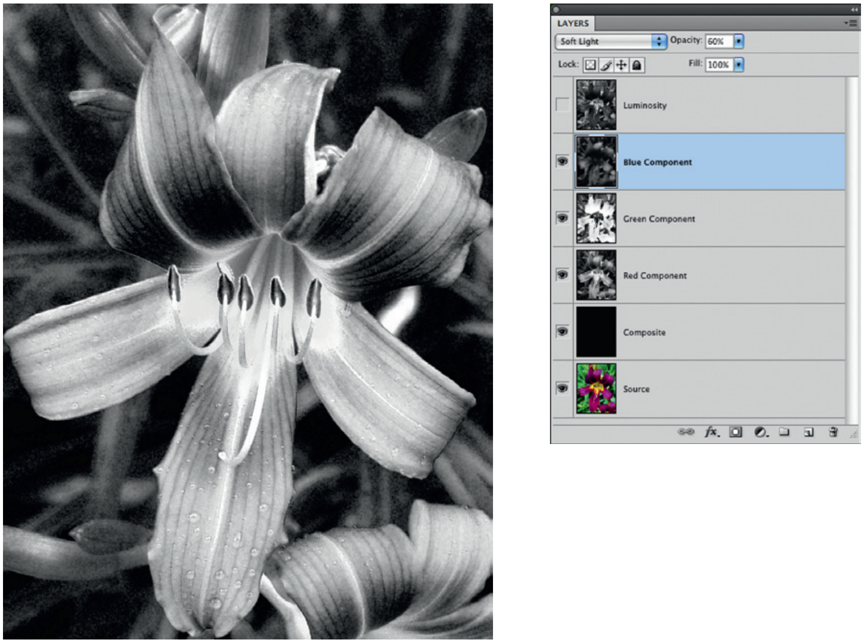
The previous example was a result derived from experimentation with the Green Component layer as a starting point. If you start with a component other than the Green Component layer, your goals and results for changing the image based on evaluation may be very different from those we used above. For example, if you make the separations and start with the Red Component layer, you could go in an entirely different direction and attempt to make the petals lighter than the background. Let's try it out.

NOTE: The flower petals in the red component are dark but brighter and more contrasty than the background. The goal here could be to make the flower stand out from the background by darkening the image around the flower and lightening the petals. It is perhaps not as it appears naturally in tone, but that does not make it an invalid adaptation.

Try It Now: A Black-and-white Variation Based on the Red Component

1. Open the Sample_5.4.psd image again.
2. Run the RGBL Components action.
3. Shut off the view for the Luminosity, Green Component, and Blue Component layers. This leaves the view for the Red Component layer.
4. Activate the Green Component layer, and toggle the view on. Invert the layer content (Command+I/Ctrl+I), change the Mode to Overlay, and reduce the opacity to 24%. Inverting the layer changes the content to a negative of the original, in this case making the petals light and the background dark in the Green Component layer. Applying the layer in Overlay should use the inverted content to darken the background and lighten the petals.
5. Activate the Blue Component layer, and toggle the view on. Apply a Gaussian Blur of 10 pixels, change the Mode to Soft Light, and change the opacity to 60%. This will serve to smooth out the roughness of the blue component and allow it to be applied to enhance the contrast and soften the image, both at the same time (see the result in Figure 5.20).

NOTE: The great part about this type of component-based masking is that it is prefit to the image because it comes directly from the source.



LAYERS

Soft Light Opacity: 60%

Lock: Fill: 100%

FIG 5.20 The result of starting with the red component and a different set of goals

Because the conversion here is based on the impression of the red component, rather than light theory, this calculation will actually not be likely to produce a good black-and-white conversion on many images, even though it produces interesting results here. The point is that depending on where you start, how you see an image, and how you decide to use the content to make calculations, you can come to very different ends. If you are up to it, try an experiment: start with the Blue Component layer, and see where that leads. You will want to look at the blue channel on its own, evaluate it, envision the result you want to get, and attain it using what you know about layers. It takes vision and practice to be able to use the components creatively and effectively. Practicing your visual evaluations will benefit you even if the conversions to black and white are not entirely successful.

It does not stop with black-and-white conversions. Clever use of custom separations may help you define selections and masks for purposes well beyond simply creating unique black-and-white results. Black-and-white manipulation offers opportunities for redefining the color that makes the image and making masks to target further changes and calculations. Layer modes are a key to defining change.

Summary

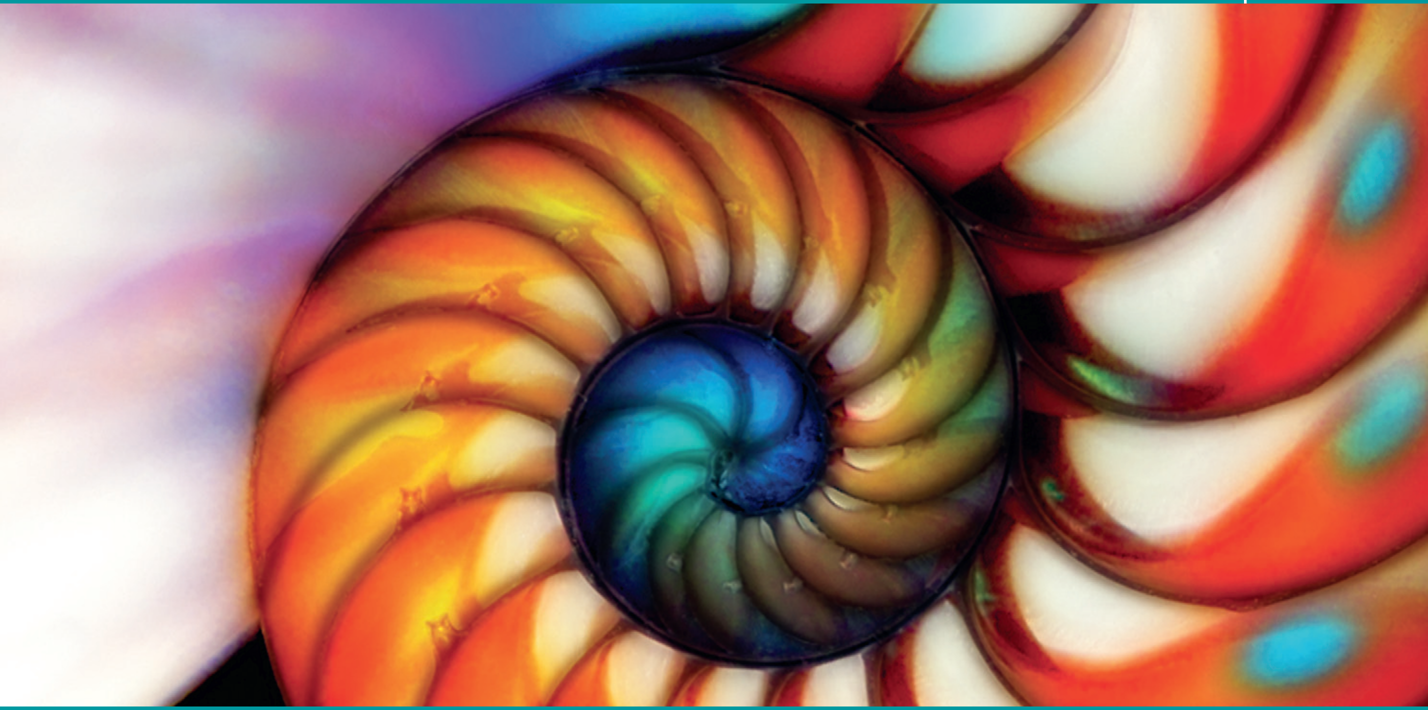
We have looked at the basics of Layer Modes in an overview and then jumped into two evolved techniques out of infinite variations that can be produced with layer modes. Certainly layer modes are not hard to apply, but applying layer modes is not neccessarily best to do based on trial and error. Very sophisticated and calculated results can be achieved by defining goals. It may take some time to develop confidence in using layer modes for sophisticated and advanced changes and deriving your own original calculations, but the few examples here may start you contemplating mode application rather than simply attempting to arrive at pleasant results by chance. All this to say: a mode is a means of isolating effects, different from – but similar to – the purpose of masking. Use modes to their decided advantage, and that is where you will have success.

Sticking with the preferred list of modes outlined (and exploring the examples in the rest of the book) will help you maintain focus on the modes that will be most effective in your image corrections and those you are most likely to absorb as part of your work flow. Practice the exercises for separating color from tone and applying manual sharpening using your own images to see how the techniques behave. Simple modes such as Normal (default), Multiply (darken, burn), Screen (lighten, dodge), Overlay/Soft Light (contrast enhancement), Color (lock color or change color), and Luminosity (lock tone or change tone) will become your workhorse tools. Concentrate on what the "easy" modes do, and you can add the bulk of what modes will enable for you day in, day out.

The separations we have looked at are the core of another powerful element of Photoshop: Channels. Channels are a powerful tool in their own right; however, when layers are used correctly to their capability, they can make Channels and channel functions virtually unnecessary and superfluous. Using separated components as described in this chapter gives you tremendous flexibility with the application of components in a more straightforward model than using Channels or channel functions which have decided limitations. Layering components can help you break away not only from the limitations of Channels, but also of other tools such as Channel Mixer and Calculations.

At this point we have looked at most of the more powerful layer functions and a variety of brief exercises that allowed us to apply the tools to achieve specific goals. We've taken a tour of the process of image editing and defined an outline for an editing approach. As we turn the corner into the final two chapters, we will refocus to combine process with a variety of techniques by taking images through corrective steps from beginning to end with layers as our guide to the result.

For more helpful actions for image adjustments in Photoshop, conversions to black and white, and separations, and for questions about the techniques and procedures, visit the web site for this book at http://www.photoshopcs.com. I am hoping reader interest and questions on the forum will lead to creating new actions for reader use, which I'll make available, and that discussion will open doors to broader understanding of working with separations for masking, selection, and conversion.



Taking an Image through the Process

Throughout this book we've looked at multiple facets of image correction and adjustment using layer functionality. As we were still busy exploring Layers, there has not been an opportunity to put everything together. The goal of this chapter is to bring together layer techniques that we have learned, to see how the procedures apply to real-world images and real-world editing situations. Seeing the whole process in action should help you to use the concepts and techniques to correct your own images. Using a sample image supplied with the downloads, we will step through the process of correction and adjustment from start to finish to show how the process works in practice.

The base process used for the image will follow procedures suggested earlier in this book. You don't have to agree with or even like the embellishments, but you should understand the procedures and how they fit into the process of getting to the image result. We will take a critical look at the photo before stepping through the procedures so that we can outline the goals for the image. This chapter is

The Adobe Photoshop Layers Book.

© 2012 Richard Lynch. Published by Elsevier Ltd. All rights reserved.

meant to reflect the way you will approach any image as you continue working with layers in your image editing work flow and the concepts from this book. The process always starts with defining what you want to accomplish.

Evaluating the image

Working through the process of editing will always really start with evaluating the image. No matter what you see in an image preview on the camera LCD, or in Bridge or other viewers, there is no substitute for actually opening the image in Photoshop. The image-processing checklist is where you start your evaluation of any image. We'll follow this editing checklist in processing the Sample_6.1.psd image pictured in Figure 6.1. A review of the image editing outline appears in Table 6.1.

At this stage of the game it is assumed you have taken care of setup, which is why we are looking at just the image-editing outline. If you have not taken care of setup, it may help to review the section of the book on Setup and Capture in Appendix 2: Essential Non-layer Concepts.

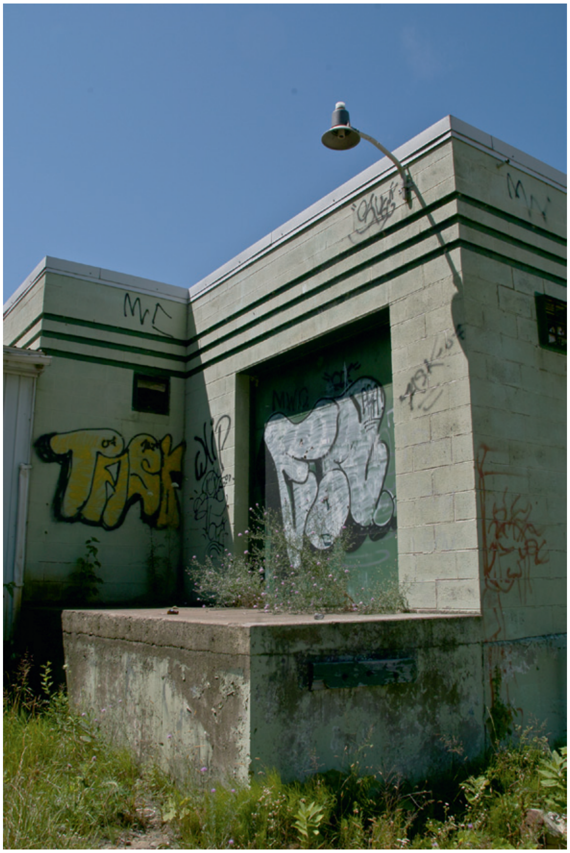


FIG 6.1 This image offers many opportunities to exercise techniques we have looked at throughout the book to create a final product

TABLE 6.1 The Image Editing Outline

• Open the image
• Evaluate the image
• Make general corrections
• Make selective correction
• Perform heroics
• Apply finishing enhancements
• Save the image
• Purpose the image

Applying the Image Editing Checklist

Open Sample_6.1.psd and have a good look at the image. Generally you will know some of the history of your images when you shoot them, so a little background on this image may help you understand where my decisions come from.

Working with RAW Files
This image has already been converted from RAW. Adding that complexity would be distracting in this context. If you shoot RAW files, you may want to consider the opportunities you have when opening RAW images. I explain my take in a section on *Opening RAW Files* in Appendix 2. Consult that section for more information.

I shot the image in Figure 6.1 on the coast of lake Erie during the summer. It is an abandoned warehouse falling to disrepair just off a public beach in Elma, NY. I'd originally taken this frame in a series of exposures to use in HDR processing. Though I took five shots to make the HDR image, I decided to try using just one without processing all the frames to HDR, as the 1/250 exposure held the shadow detail without compromising the highlights.

Grafitti and decay suggest grunge to me, and I was going to over-process this image after initial corrections to make it look right. The sky was too bland, which was obvious while shooting, but just to the West there were some clouds blowing up that would serve as a good substitution. After I shot the series for the HDR image, I turned the camera on the clouds (see Figure 6.2). After shooting a few sky replacements, I felt like I was done with the shot. I had five exposures for HDR if desired, and replacement sky.

Exposure Information

The camera for both shots was a Sigma SD14 with an 18–200 mm DC OS lens, which I find useful for carrying around because of the flexible zoom and

FIG 6.2 A shot of the sky taken by rotating the camera to the West. I didn't even move the tripod

optical stabilization (OS). Both shots were taken using a DynaTran tripod with pistol grip, quick release, and a wireless shutter trip. Because this image was taken with a moderate shutter speed, an optimal aperture, and a low ISO, it would almost necessarily be lacking problems associated with more extreme exposure choices (noise, short depth-of-field, blur).

As long as you are using a modern digital camera, the camera captures EXIF data (exchangeable image file), storing information about the exposures you make at the time of capture. You can access and use these data to refer to exposure information. To find the EXIF data for your images, open Photoshop, and choose File Info from the File menu (File>File Info). The data are listed for the sample images under the Camera Data 1 category. This information can track what you did to capture the image, give hints as to the quality of the capture, and provide an opportunity for learning.

sample_6.1.psd EXIF Exposure Info

Shutter speed	1/250 second
Aperture	f9
ISO	100
Focal length	18 mm

sample_6.2.psd EXIF Exposure Info

Shutter speed	1/2000 second
Aperture	f4.5
ISO	100
Focal length	24 mm

The exposure information for the two images is quite different and may have proven to be more important depending on how the content was to be used.

As the two images represent what are really separate focal plains (subject and background), qualities that may otherwise have been a problem should not affect merging them.

To examine the image, you want to do a few simple things, like open the image and zoom in to take a look at details (sharpness, graininess, noise), and look at the RGB channels. You also want to consider the purpose of the correction. Sometimes you will find some interesting qualities or the views may suggest specific changes or alterations. For example, you may have a noisy Blue channel that suggests a little blurring of the blue might help overall, or there might be tonal qualities you'd like to borrow or use for masking. You can certainly examine the channels by opening the Channels palette, but do it the Layers way by running the RGBL Components action from the Separations action set. After running the action, view the channels by toggling the visibility off for the layers from the top of the Layers palette down (see Figure 6.3). After giving the image a good look, you want to evaluate it with the image evaluation list (see Table 6.2).

The alignment and cropping seem to need little work, if any, as the image was framed as desired. However a slight trim of some dead space at the right and shortening the sky will improve the composition a bit as well as allow opportunity to introduce a layer concept for cropping.

Of course we'll want to do an initial Levels correction. The initial color is a tinge cool, and it could use some color balance adjustment. Contrast is OK, but might improve with some adjustment, as my preference is generally for contrasty images. In an image like this there will be little in the way of detritus that is important to remove, except possibly for cleanup of whatever might be a distraction. But the grit and debris here seem more part of the image than they might normally be.

There are probably many options for composition change, but the primary one here will be to replace the sky. If the image were more architectural and proper, I might consider straightening the verticals, but I like them as they are – more Gotham City than Mayberry. There may need to be some selective change to specific areas of shadow or the graffiti to choreograph the result, and that will be more apparent as we move through the changes. However, my guess is that the image will be more interesting by retaining shadow details that will otherwise disappear during contrast enhancement.

Enhancements will include some measure of contrast enhancement and punching up the color to define a more extreme, grungy feel. Here we can employ some layer modes and some masking to define the "look."

The final list of corrections per this evaluation is the following, attempting to work from most general to most specific before making any overall image adjustments:

- General Levels correction to improve dynamic range and color balance.
- Enhance contrast.

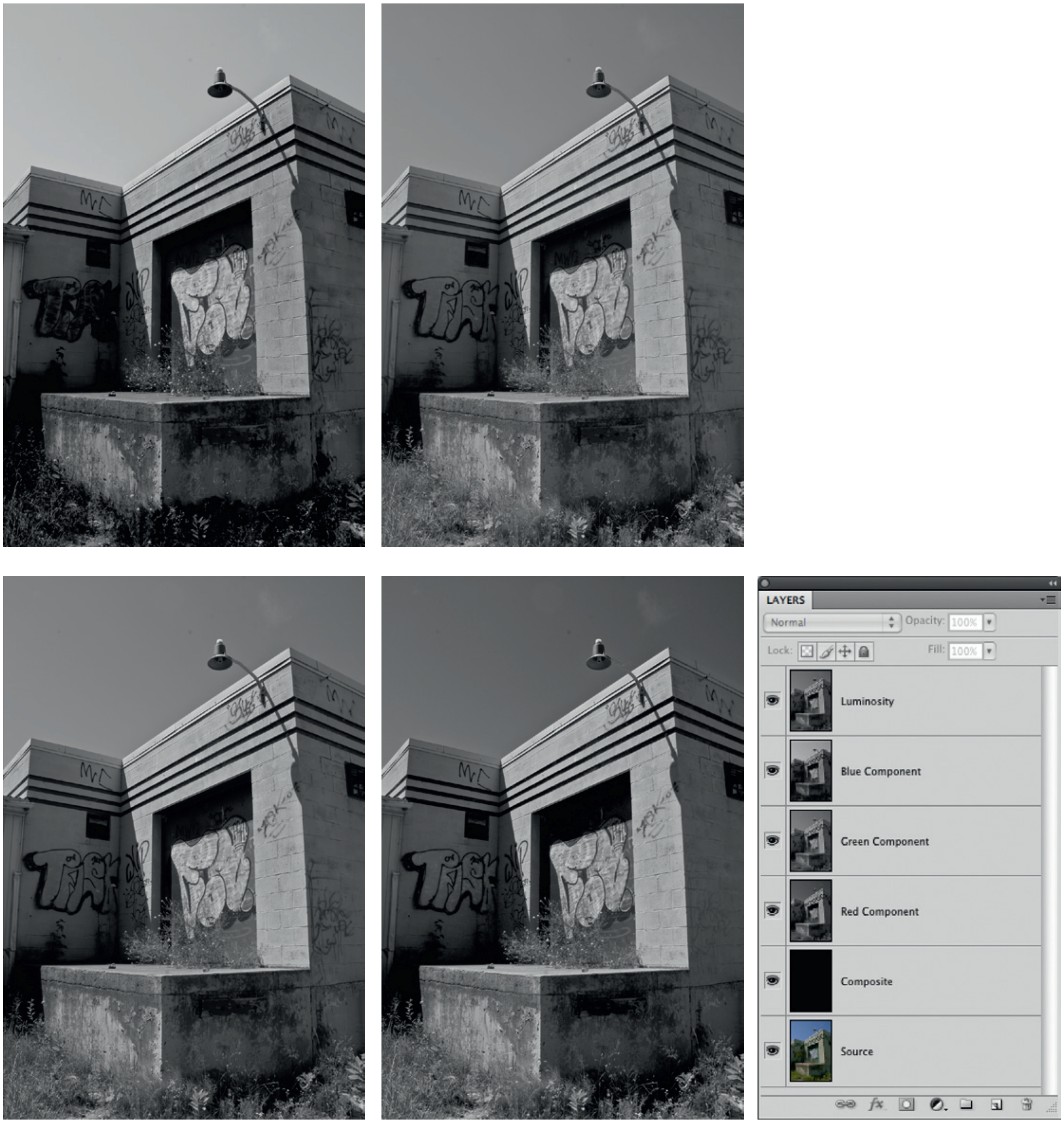

LAYERS
Normal
Opacity: 100%
Lock:
Fill: 100%
Luminosity
Blue Component
Green Component
Red Component
Composite
Source

FIG 6.3 Channels can give you an idea of the quality of the capture as well as a few quick ideas for contrast alternatives

TABLE 6.2 Image Evaluation List

• Alignment/Crop/Horizon Check
• General Color/Tone Correction
• Damage/Dust/Debris/Detritus
• Composition Changes/Imaging Heroics
• Image Enhancements

- Color Balance to eliminate cool/blue feel.
- Define the crop to trim some dead space (especially right and top).
- Add effect(s) to punch up color and local contrast to enhance the "grunge" feel.
- Replace sky to add more dynamics and interest.
- Apply calculations to define a grungy HDR-like result.

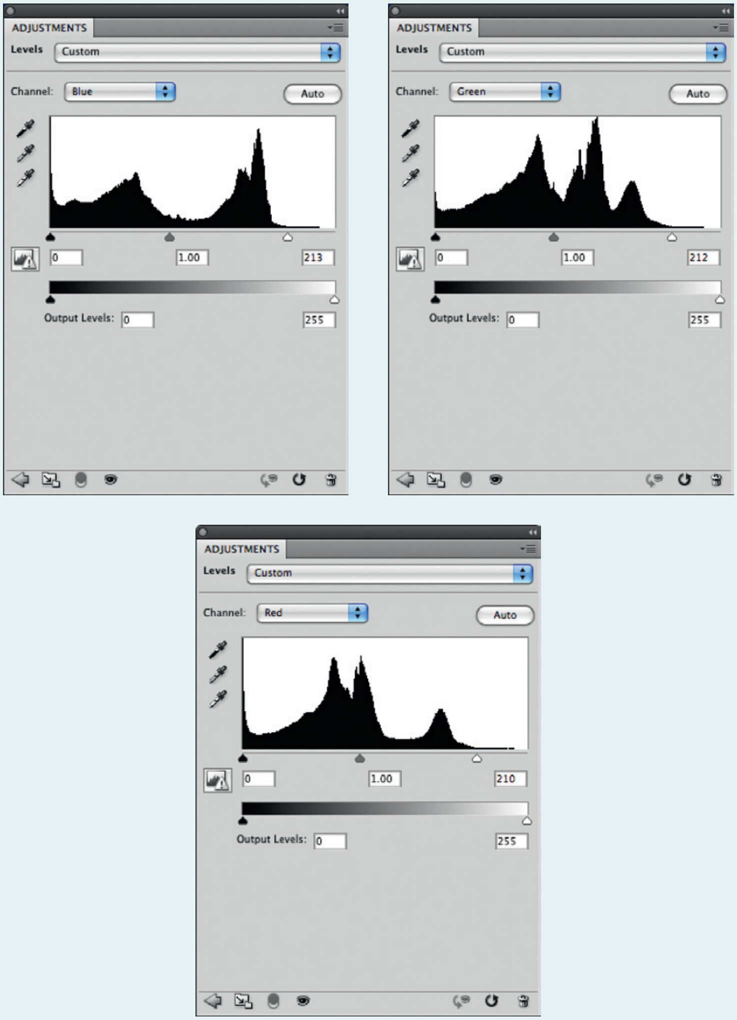
The closer these are to the right order, the easier they will be to follow. While the later steps seem brief, the individual acts can take quite a lot of effort to accomplish. No need to define the specific methods for change, but only to define what you want to accomplish.

Running through the steps using techniques we have already learned or that have been hinted at will make short work of the list – even if we do end up with more layers than you might expect. Be aware that as you go you may create additional issues that will require some attention. These are all concepts and techniques we have touched on throughout the book and in other corrections. Putting them into play as the whole process should shed some light on how you will work through images.

NOTE: At points, it is possible for an image to look worse before it begins to get better. For example, there may be instances where you will need to work on particular elements or areas of an image and ignore what is happening elsewhere. At that point in the process the image, overall, may not look very good, but so long as you know where you are going, you shouldn't worry, just allow yourself to consider it an image in transition, and retain some confidence that you can blend the change.

Try It Now

1. Open the Sample_6.1.psd image in Photoshop if it is not already, and make a Levels correction to the image for each channel in the Channels drop-down list using a Levels Adjustment layer. Name the layer **1 – General Levels**. See the "Levels Adjustment Layers for Tone and Color Correction" section of Chapter 2 for a review of Levels correction. See Figure 6.4 for the Levels settings used for this sample.
2. Adjust Color Balance using a Color Balance Adjustment layer. Name the new layer **2 – General Color Balance**. See Chapter 2 for a review of making Color Balance corrections. See Figure 6.5 for the Color Balance settings used.
3. Crop the image. You could use the Crop tool to trim down the image and change the composition, but taking a non-destructive approach will be more consistent with what we are trying to accomplish in establishing a workflow. Though you can't really "crop" in layers, you



Levels: Custom
Channel: Blue
0 1.00 213
Output Levels: 0 255

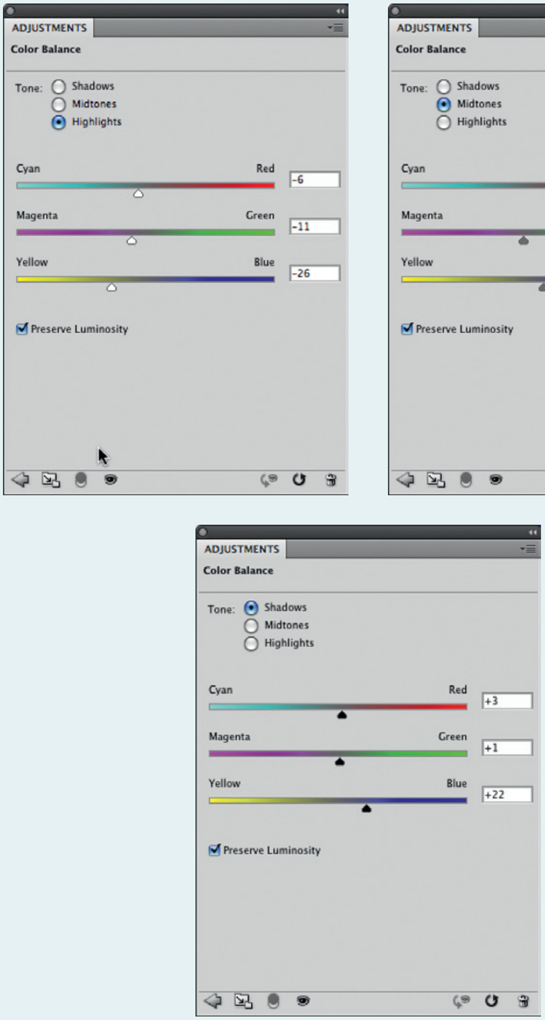
Levels: Custom
Channel: Green
0 1.00 212
Output Levels: 0 255

Levels: Custom
Channel: Red
0 1.00 210
Output Levels: 0 255

FIG 6.4 Each of the channels had a shift away from highlights. This suggests a bit of underexposure. The adjustment will extend the dynamic range and enhance general contrast

can create a Cropping Layer and use it to view the image as if it were cropped. Load the Layer_Cropping_Tools.atn provided with the downloads and run the Cropping Layer action. See the **Cropping Layer** section for more information.

4. Saturate and enrich the color. The specific steps for saturation in this image are in the **Color Saturation** section.
5. Enhance the local contrast so that edges stand out. "Grungy" feel in images can mean a lot of different things. What I had in mind for this



ADJUSTMENTS
Color Balance
Tone: ○ Shadows
○ Midtones
● Highlights
Cyan Red -6
Magenta Green -11
Yellow Blue -26
☑ Preserve Luminosity

ADJUSTMENTS
Color Balance
Tone: ○ Shadows
● Midtones
○ Highlights
Cyan Red +17
Magenta Green -6
Yellow Blue +10
☑ Preserve Luminosity

ADJUSTMENTS
Color Balance
Tone: ● Shadows
○ Midtones
○ Highlights
Cyan Red +3
Magenta Green +1
Yellow Blue +22
☑ Preserve Luminosity

FIG 6.5 The Color Balance adjustment will clear up some of the blue shift and lift a little haze. There is still a long way to go to meet the goals of the list

image is pushing the local contrast and building in some of what most people consider an HDR effect. The key there is isolating the edges to use for those few additional adjustments. See the **Building Grunge** section.

6. Add the new sky. Before we get too much further along, we'll want to see that all the elements in the final image work together and continue adjustments with the complete image in mind. To add the sky, you can make the current sky into a mask to define where the new

sky will display. See the **Add a New Sky** section for details about how the sky was added.

7. Lighten the shadow over the dock door. This will require defining the look that is desired and using techniques to mask the result. See the **Selective Lightening Example** section.
8. Darken the face of the loading dock and accentuate shadows – a subjective change, but one that will allow a look at simplifying masking. See the **Selective Darkening** section.

Cropping Layer

The idea of a cropping layer is unique to this book. The idea is to be able to keep all the original image information and be able to define a crop and preview non-destructively. An additional advantage is the ability to define multiple versions in the same image without having to keep separate versions (4 × 6, 3.5 × 5, 6 × 9, 8 × 10, etc.). The *Cropping Layer* actions provided with the download complete the following steps for you. (See Figure 6.6.)

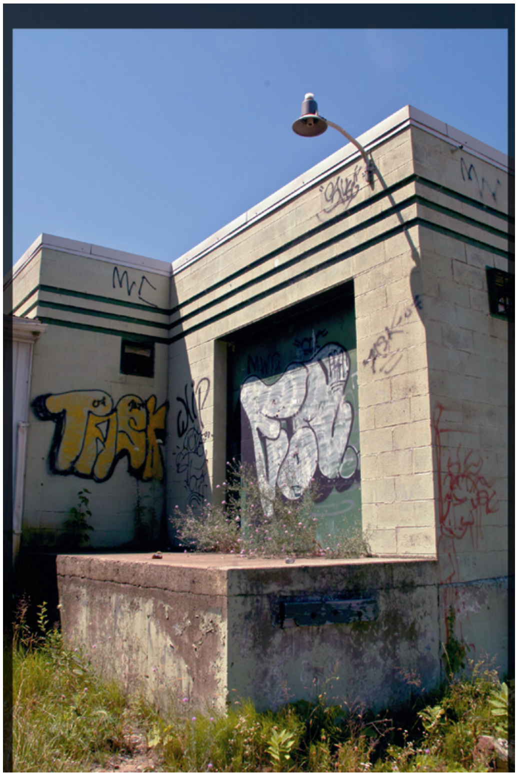


FIG 6.6 This crop is saved in a separate Cropping Layer in the image, offering a non-destructive means of storing desired crops. The crop will not be pictured in other screen shots

a. Create a new layer at the top of the layer stack and call it **Cropping Layer**.
b. Fill the *Cropping Layer* with black, set the Fill to 0%, and the Opacity to 70%.
c. Create a vector crop frame that can be used to define the crop size and act as a partially masked preview.
d. Invoke Transform Path to resize the cropping frame.

The steps used to accomplish that are a little more complicated (you can view the action in the Actions palette to see exactly how), but the result is the same. The tool is provided in two versions, with instructions and without. After the crop is created, keep the *Cropping Layer* at the top of the layer stack and keep the view *off*. You can view the crop at any time by toggling the view for the Cropping Layer to *on*. The crop can be resized at any time, and multiple crop versions can be saved with the image.

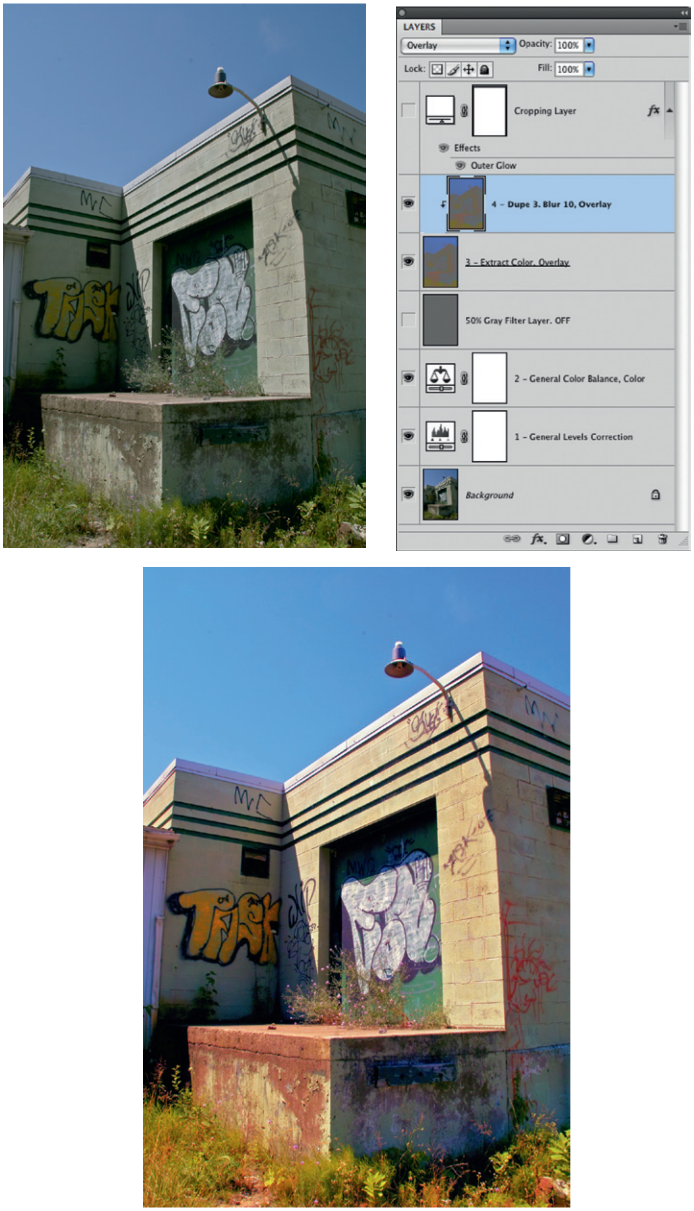
To actually crop the image, Command+click/Ctrl+click the mask for the Cropping Layer, and choose Crop from the Image menu (Image>Crop). This way the crop can be stored with the image as a layer, and applied as needed to produce purposed versions of the image.

The image must have a Background layer for the action to work properly.

Color Saturation

The color still needs some enhancement even after the general corrections are met. A color separation will make it easier to target the color content. Still, it will not be the goal to get it all done in one step.

a. Create a 50% gray layer to serve as a filter for the color (the **Layer_Book_Utilities.atn** file has a **Fill Gray 50%** action that will do this for you. It is useful to load as Command+Shift+F5/Ctrl+Shift+F5 will create one of these layers any time you need one). Set the layer to Luminosity mode.
b. Press Command+Option+Shift+E/Ctrl+Alt+Shift+E to stamp the visible color to a new layer. Name the layer **3 – Extract Color, Overlay**, set the layer to Overlay.
c. Duplicate the *3 – Extract Color…* layer. Use the Gaussian Blur filter to blur 10 pixels, set the layer to Overlay, and group with Layer #3. The result of these steps should look like the image in Figure 6.7.



LAYERS

Overlay Opacity: 100%

Lock: Fill: 100%

Cropping Layer

Effects

Outer Glow

4 – Dupe 3. Blur 10, Overlay

3 – Extract Color, Overlay

50% Gray Filter Layer. OFF

2 – General Color Balance, Color

1 – General Levels Correction

Background

FIG 6.7 At this point there should be a decided increase in the saturation and improvement in the color and tone compared to the original, but there still seems to be a lot more that can be done

Building Grunge

As per the description in the step, isolating the edges to perform some contrast enhancement will be useful in creating a grungy look. While there are a variety of ways this can be accomplished, Photoshop has a Find Edges filter that will serve the purpose of extracting the edges. First we'll use the isolated edges to darken the shadows, and then we'll use the "non-edges" to brighten the highlights. The net effect will be a strong enhancement to the contrast and enhancement of edges and flaws.

a. Make a snapshot layer. You can do this using the Command+Option+Shift+E/Ctrl+Alt+Shift+E shortcut. Name the layer **5 – Snapshot. Find Edges. OFF** (This layer will stay in the stack, but the view will be off as we'll use variations on it to achieve the effect.)

b. Run the Find Edges filter (Filter>Stylize>Find Edges). This filter will isolate the edges that exist in the image based on contrast. Running the filter results in a sort of impressionistic pencil sketch of image edges (see Figure 6.8). Toggle the view for the layer to off.

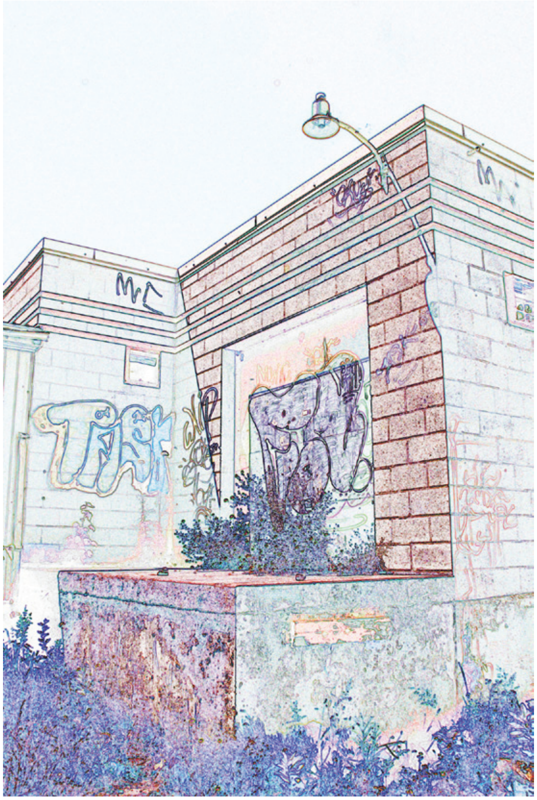
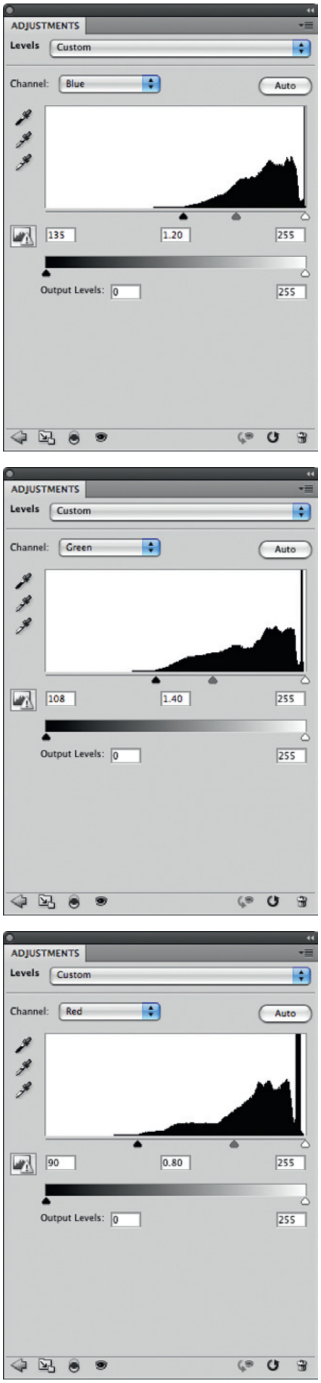


FIG 6.8 Find Edges would be much more useful if it had a means of controlling and revising the result. However it does serve the purpose of defining the edges here. Now to use them to darken the dark stuff and leave the highlights alone

c. Duplicate *5 – Snapshot. Find Edges*…. Name it **6 – Dupe 5. Blur 5, Isolate Shadow, Multiply**.
d. Apply a Gaussian Blur of 5 pixels, and change the layer mode to Multiply.
e. Target the shadows. To do this, Shut off the view for layer *6 – Dupe 5*… and load the RGB channel as a selection (you shut off the view for the layer to negate the effects). Invert the selection (Selection>Invert), and click the *Add Layer Mask* button at the bottom of the layers palette. This will add a mask to the *6 – Dupe 5*… layer masking/blocking the layer highlights. Also run the Isolate Shadows action from the *Blend_If_Layers_Book* actions. This will compound the shadow isolation in the current layer and make sure the darkening is applied to the darker part of the image.
f. Turn on the view for the *6 – Dupe 5*… layer and duplicate it. Name the new layer **7 – Dupe 6. Isolate Highlight, Blur 10, Overlay**.
g. Dispose of the mask for Layer *7 – Dupe 6*…. To do this, click directly on the mask and drag it to the trash at the bottom of the Layers palette. When prompted, click *Delete*.
h. Reset the Blend If sliders for Layer *7 – Dupe 6*… using the Reset action in the *Blend_If_Layers_Book* actions.
i. Blur the layer using Gaussian Blur and 10 pixels radius. The goal here is to soften the content and bleed some of the character into the highlights.
j. Use the Red channel as a mask for Layer *7 – Dupe 6*… to target the highlights in the brick. To do this shut off the view for layer *7 – Dupe 6*…, then Command + click/Ctrl + click on the Red channel thumbnail in the Channels palette. With the selection loaded and layer *7 – Dupe 6*… active, click the *Add Layer Mask* button at the bottom of the palette. This will add the red channel as a mask to the layer.
k. Set the layer mode to Overlay.
l. Create a Levels adjustment layer, call it **8 – Level Adjust Edges** and group it with the *7 – Dupe 6*… layer. The adjustments will look something like the Levels in Figure 6.9. The movement of the white and black sliders should be about the same; the position of the gray sliders is more of a subjective matter according to what you like in the color.
m. Apply a color balance to the image. To do this, create a new Color Balance adjustment layer, and do not group it. Name it **9 – Global color adjust**. I chose the settings in Figure 6.10.

At this point, the layer stack should look like that in Figure 6.11.

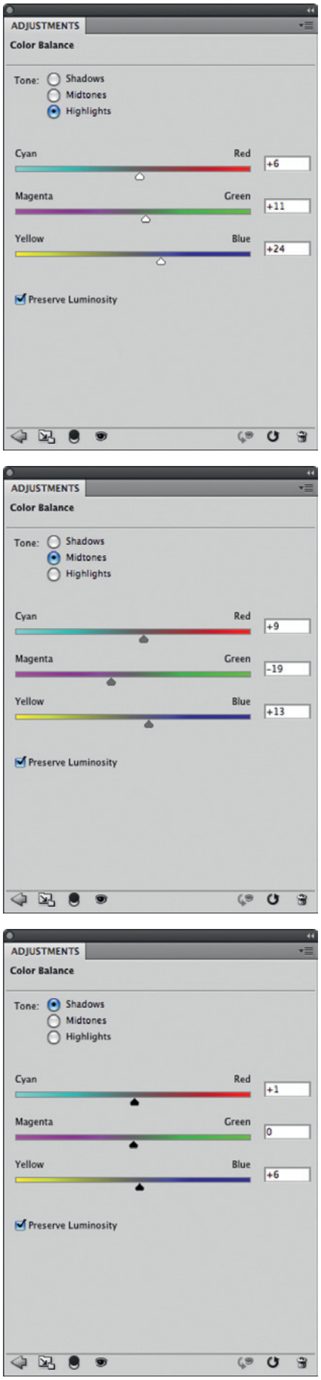


ADJUSTMENTS
Levels: Custom
Channel: Blue
135 1.20 255
Output Levels: 0 255

ADJUSTMENTS
Levels: Custom
Channel: Green
108 1.40 255
Output Levels: 0 255

ADJUSTMENTS
Levels: Custom
Channel: Red
90 0.80 255
Output Levels: 0 255

FIG 6.9 It is a good idea to use these same settings, as deviating from these settings can lead to very different results

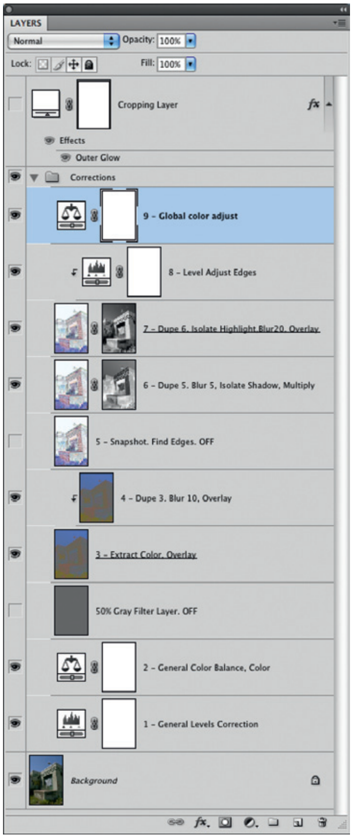


ADJUSTMENTS
Color Balance
Tone: ○ Shadows ○ Midtones ● Highlights
Cyan – Red: +6
Magenta – Green: +11
Yellow – Blue: +24
☑ Preserve Luminosity

ADJUSTMENTS
Color Balance
Tone: ○ Shadows ● Midtones ○ Highlights
Cyan – Red: +9
Magenta – Green: -19
Yellow – Blue: +13
☑ Preserve Luminosity

ADJUSTMENTS
Color Balance
Tone: ● Shadows ○ Midtones ○ Highlights
Cyan – Red: +1
Magenta – Green: 0
Yellow – Blue: +6
☑ Preserve Luminosity

FIG 6.10 Your choices here could potentially be very different. I was looking to accent contrast and enhance the "grungy" look. Again use these settings to make it the same as the example result; you can try it again and experiment using different slider positions



LAYERS
Normal Opacity: 100%
Lock: Fill: 100%
Cropping Layer
Effects
Outer Glow
Corrections
9 – Global color adjust
8 – Level Adjust Edges
7 – Dupe 6. Isolate Highlight.Blur20. Overlay
6 – Dupe 5. Blur 5, Isolate Shadow, Multiply
5 – Snapshot. Find Edges. OFF
4 – Dupe 3. Blur 10, Overlay
3 – Extract Color. Overlay
50% Gray Filter Layer. OFF
2 – General Color Balance, Color
1 – General Levels Correction
Background

FIG 6.11 I added a Corrections group folder so that it would be easy to compare Before/After by toggling the group view. There is quite a remarkable change in the image at this point, but still more to come!

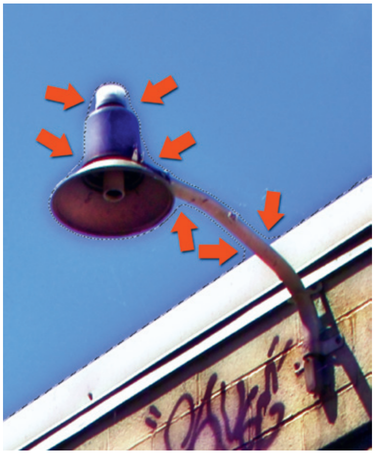
Add a New Sky

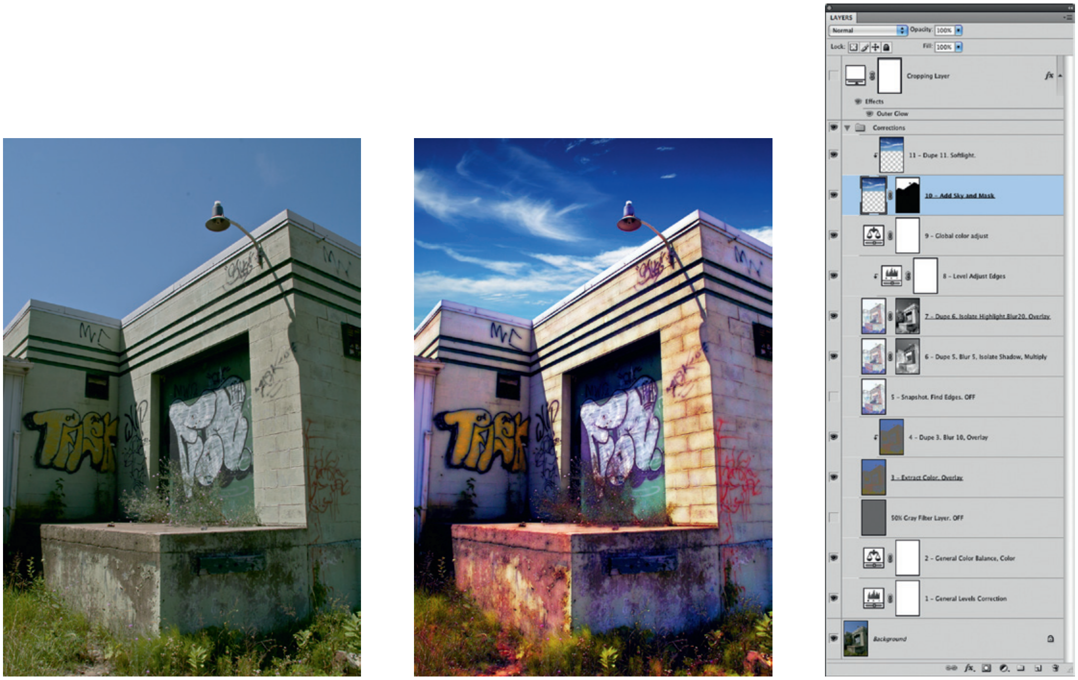
There are many ways you can handle adding a new sky to an existing image, and the method you use will probably have to do with the content of the image where you are adding the sky to. In this case, we have a fairly clear sky (if you look close there is a small cloud above the closest corner of the building, a few spots in the sky that seem to be dust on the sensor, a spot from a lens flare, and some noise by the lamp which could be a spider's web). It would be trickier if there were more to work around. In any case the best way to accomplish this is by making a mask and placing the new sky in the mask.

a. Open the Sample_6.2.psd.
b. Select All, and Copy. This will place the content of the image in memory (on the clipboard).
c. Activate the Sample_6.1.psd image. You can do this by choosing the file name from the Window menu, or by clicking the image title bar or tab.
d. Paste (Command + V/Ctrl + V). This will add the sky sample to the Sample_6.1.psd.
e. Drag the layer to the top of the layer stack (just below the Cropping Layer) if it was not there already and name it **10 – Sky and Mask.**
f. Duplicate the layer and name the new layer **11 – Dupe 11. Softlight**. Make it a clipping group with layer *10 – Sky and Mask* and change the mode to Softlight.
g. Shut off the view for layer *10 – Sky and Mask*, and make a selection of the existing sky. To make easy work of this use the Magic Wand tool (Tolerance: 20, Antialias: Unchecked, Congruous: Checked, Sample All Layers: Checked) and shift+click in several areas across the sky.
h. Clean up the selection. Figure 6.12 shows what the selection might look like in a closeup after using the Magic Wand. Because of earlier changes, the corners will probably not be well defined. You can switch to Quick Mask mode (use the Quick Mask button at the bottom of the tool palette) and touch up the selection now, or wait to adjust the mask after it is created.
i. With the selection and the *10 – Sky and Mask* layer active, click the *Add Layer Mask* button at the bottom of the Layers palette. This will use the selection to mask the sky. Figure 6.13 shows the state of the layers at this point and the before/after.

With the sky added, the composition is really complete. There is a lot of opportunity for additional adjustment. Looking over the composition at this point, there are a few issues that can be targeted and dealt with. For the sake of furthering the example, it may be nice to have a little more detail in the shadows that lie over the graffiti on the door, and a little

FIG 6.12 **The rough selection will require some fine tuning, but the Magic Wand accomplishes the bulk of the work for you**





LAYERS
Normal
Opacity: 100%
Lock:
Fill: 100%
Cropping Layer
Effects
Outer Glow
Corrections
11 – Dupe 11. Softlight.
10 – Add Sky and Mask
9 – Global color adjust
8 – Level Adjust Edges
7 – Dupe 6. Isolate Highlight Blur20. Overlay
6 – Dupe 5. Blur 5. Isolate Shadow, Multiply
5 – Snapshot. Find Edges. OFF
4 – Dupe 3. Blur 10. Overlay
3 – Extract Color. Overlay
50% Gray Filter Layer. OFF
2 – General Color Balance, Color
1 – General Levels Correction
Background

FIG 6.13 **With the area masked, the shot of the sky can be moved within the boundaries of the mask. You will need to link the content of Layers 10 and 11, but *un*link the mask. That will keep the two layers in sync with each other and will keep the mask from moving**

more differentiation and richness in the front face of the dock. We'll use different techniques for masking and targeting for these two examples to see some interesting options.

Selective Lightening Example

Again there are many ways to accomplish this result. Warning signs that something is going wrong will usually include oddly colored shadow transitions and areas of the image becoming gritty. Of course, these problems can be lessened if they appear. The first need it to define the desired result.

a. Make a snapshot layer by pressing Command+Option+Shift+E/Ctrl+Alt+Shift+E. Change the name of the layer to **12 – Snapshot. Mask Highlight, Target Shadow to Mid**.

b. Create a mask so that the highlights are masked/hidden. To do this load the RGB channel as a selection (Command+click/Ctrl+click), invert the selection (Command+Shift+I/Ctrl+Shift+I), and click the *Add Layer Mask* button.

c. Change the layer mode to Screen. This will lighten the shadows.

d. This step flattens out the image a little. The purpose of the step was to define a repair for the area we want to selectively lighten. The rest of the image doesn't matter so much … we'll mask it all off with a knockout in the end which requires several steps. It can get worse before it gets better.

e. Take another snapshot and invert the content (Command+I/Ctrl+I). Name the new layer **13 – Snapshot. Invert, Overlay, 40%, Target Shadow to Mid**. Run the *Target Shadows to Midtone* action to trim the range of what this layer will affect; then change the mode to Overlay and reduce the Opacity to 40%. This will lighten the result a bit more. Now let's build the knockout mask.

f. Highlight Layers 12 and 13 (Command+click/Ctrl+click on the layer, *not* the thumbnail), and drag them to the *Create a New Group* button at the bottom of the Layers palette. Name the new group **14 – Knockout Group**.

g. Create a new layer above the two layers inside the group. Fill that layer with gray, reduce the Fill of the layer to 0%, and name it **15 – Knockout Mask**. Add a layer mask to the *15 – Knockout Mask* layer.

h. Double-click the layer to open the Layer Styles and change the Knockout to Shallow. At this point the image will look the same as it did at the beginning of this example.

i. Darken the mask for Layer 15 over the areas of Layers 12 and 13 that you want to reveal. Layers 12 to 15 should look like they do in Figure 6.14. What is happening here is that the top layer in the group is acting as a mask from the top of the group down. The content of the layer itself is invisible. The mask cuts through the content in the layers of the group. Where you add black, the effect of the layers is unblocked/revealed. It works, in effect, like the reverse of a clipping group.

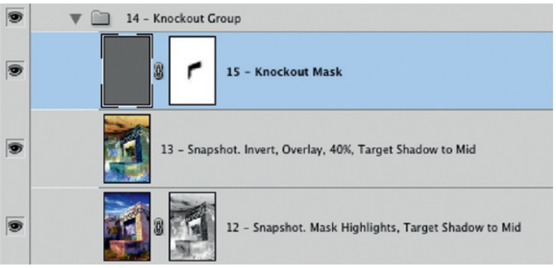

14 – Knockout Group
15 – Knockout Mask
13 – Snapshot. Invert, Overlay, 40%, Target Shadow to Mid
12 – Snapshot. Mask Highlights, Target Shadow to Mid

FIG 6.14 As Layer 15 is set to shallow knockout, it will punch through the content of the layers in the group below… until a mask blocks its effect

Selective Darkening

In the following steps, you will create two layers that use the same mask. As the mask is exactly the same, you will want to simplify the masking both to keep it consistent and to save file size.

a. Make another snapshot layer and name it **16 – Snapshot. Mask to dock face. Multiply, 30%**. Set the mode to Multiply and the opacity to 30%. This will darken much of the image.

b. Create a mask for *16 – Snapshot…* and invert the mask so it is black. This will block the effect of the layer.

c. Make a selection of the dock face. To make the selection, I chose the *Polygon Lasso* and set the options to 5 pixels feather and checked the anti-alias checkbox. The softened selection will lead to a mask that blends at the edges.

d. Be sure the mask for *16 – Snapshot…* is active and press the delete key. This should create a white patch in the mask over the area you have selected (if not, be sure the background color swatch on the Tools palette is white). This limits the effect of darkening the dock face to the area you selected.

e. Load the RGB channel as a selection. Invert the selection (which will then target the shadows). Click on the thumbnail for the *16 – Snapshot…*. to be sure it is active, then Copy and Paste. This will isolate the shadows in a new layer. Name the layer **17 – Copy Shadows, Isolate Shadows, Multiply 50%.**

f. Run the Isolate Shadows action to set the Blend If sliders to the shadow range for the layer (this further constricts the effective layer content to the shadows).

g. Load the mask for Layer *16 – Snapshot…* as a selection. Click the *17 – Copy Shadows…* thumbnail to be sure that Layer is active, and then click the Add Layer Mask button. This will duplicate the mask from Layer 16 and apply it to Layer 17. The layer will look like Figure 6.15.

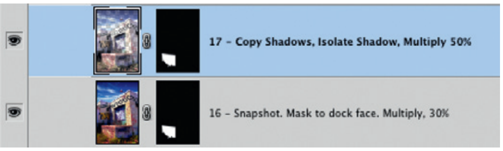
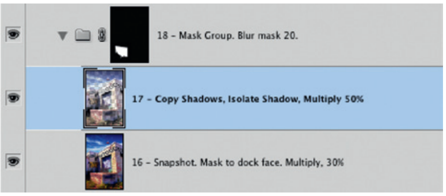

17 – Copy Shadows, Isolate Shadow, Multiply 50%
16 – Snapshot. Mask to dock face. Multiply, 30%

FIG 6.15 The mask is applied over exactly the same area in these layers. Because the opacity for each is different, they cannot be masked like a clipping group. However, they can be put into a group and that group can use a single mask

h. Highlight Layers 16 and 17 and drag them to the *Create a New Group* button at the bottom of the Layers palette. Rename the group **18 - Mask Group.**

i. Click the toggle for the group so Layers 16 and 17 are visible in the Layers palette. Drag the layer mask for Layer *16 – Snapshot…* to the trash and click *Delete* when offered the option. Drag the layer mask for Layer *17 – Copy Shadows…* to the *18 – Mask Group*. The layers will look like those in Figure 6.16.

FIG 6.16 These layers accomplish the same thing that the layers in *Figure 6.15* accomplish, but with one fewer Mask


18 – Mask Group. Blur mask 20.
17 – Copy Shadows, Isolate Shadow, Multiply 50%
16 – Snapshot. Mask to dock face. Multiply, 30%

At this point we have run the gamut of corrections on this image, and – for the purpose of this exercise and the original hit list – we have completed the image correction. We should consider the before and after comparison in Figure 6.17 as the result. There may be additional corrections you might like to make or items that you might like to adjust at this point. Of course, you can do more with this image, and experimentation is encouraged. You can note the progress in the image by opening Sample_6.1_complete.psd, shutting off all the layers, and then turning on the layers one at a time according to number order.

Note that because of the use of modes you can make fine-tuning adjustments out of order. For example, activate *1 – General Levels Correction* and in the Adjustments palette, use the gray RGB slider and move it right and left to darken and brighten the image midtones. The sky remains unaffected by the slider movement. This is not something that happens by chance, and you will not always be able to reach down in a layer stack and fiddle with primary adjustments depending on how you work. With experience you will become better at making your corrections flexible.

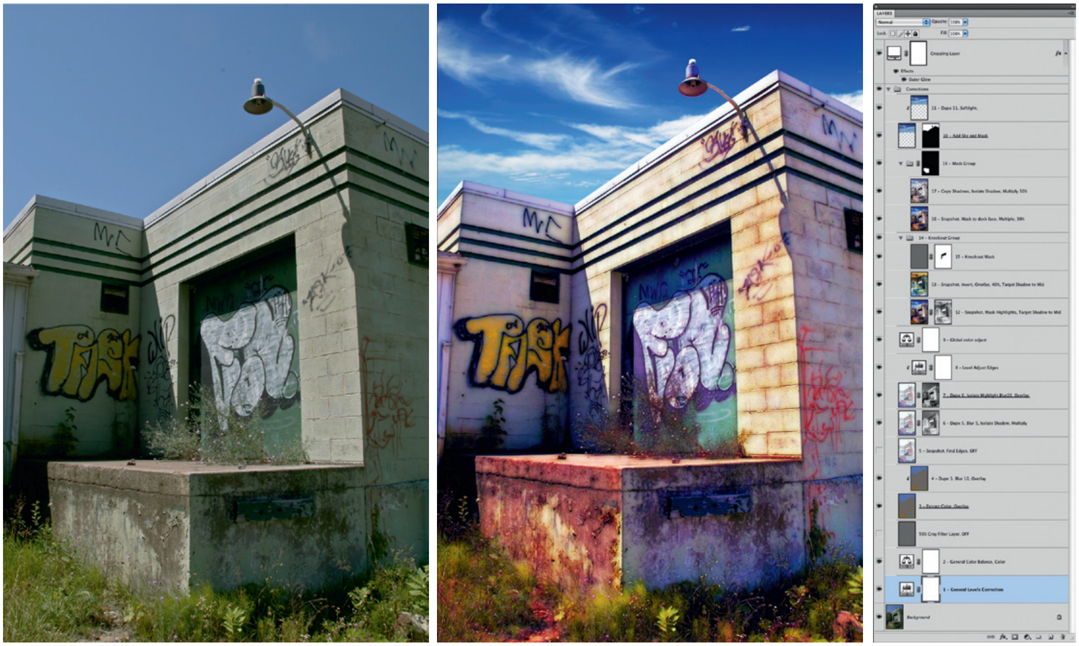

LAYERS
Normal
Opacity: 100%
Lock:
Fill: 100%
Cropping Layer
Effects
Outer Glow
Corrections
11 - Dupe 11, Softlight,
10 - Add Sky and Mask
18 - Mask Group
17 - Copy Shadows, Isolate Shadow, Multiply 50%
16 - Snapshot, Mask to dock face, Multiply, 38%
14 - Knockout Group
15 - Knockout Mask
13 - Snapshot, Invert, Overlay, 40%, Target Shadow to Mid
12 - Snapshot, Mask Highlights, Target Shadow to Mid
9 - Global color adjust
8 - Level Adjust Edges
7 - Dupe 6, Isolate Highlight Blur20, Overlay
6 - Dupe 5, Blur 5, Isolate Shadow, Multiply
5 - Snapshot, Find Edges, OFF
4 - Dupe 3, Blur 10, Overlay
3 - Extract Color, Overlay
50% Gray Filter Layer, OFF
2 - General Color Balance, Color
1 - General Levels Correction
Background

FIG 6.17 Even though there is more to do potentially, this image has come a long way from its drab beginning using the power of Layers!

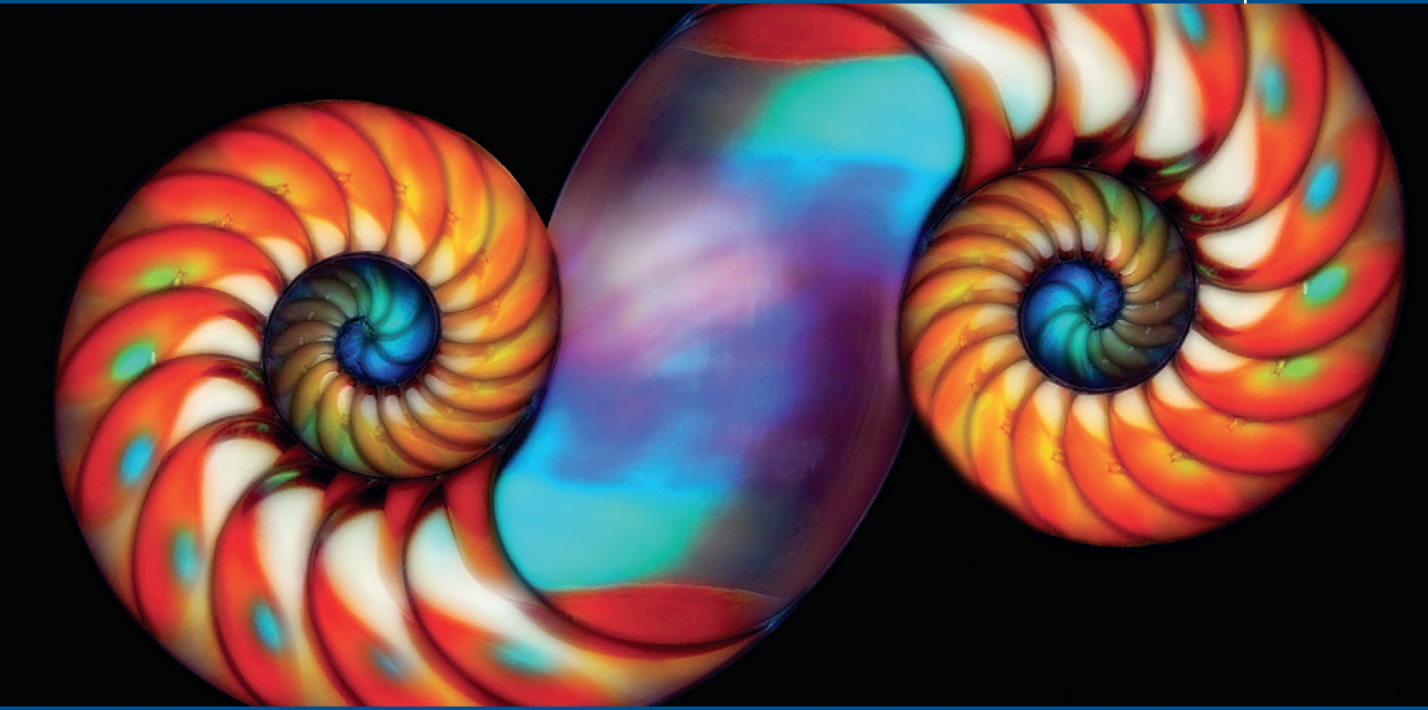
Summary

In this image exercise we have used virtually every trick in this book, applying almost every layer capability for practical purposes on an image that reflects the type of day-to-day changes you may make to any image. We've had the opportunity to look at evaluating images, how to apply your evaluation to a plan for corrections, and how to apply layers for organizing your path to a result.

As far as working with these techniques in the future is concerned, the ideas we have explored here in layering and selective correction are applicable whenever you edit images. You are best off, as in this example, working from the general corrections to the more specific and leaving as many layers intact as you need to accomplish the job. You can always go back later and clean them up, organize them, group them into categories, and learn from them.

The key is process. Know what you are doing from the outset and you can guide your corrections toward a successful conclusion. Fail to start with a plan and a direction, and your corrections will be haphazard, disorganized, have no continuity, and will only achieve change with a great investment in time and a lot of luck. Don't rely on luck to make your images right.

If you have any questions about the techniques and procedures in this chapter, please visit the web site (http://photoshopcs.com) and make your questions known on the forum! Next up we look at expanding the idea of canvas beyond what you can do in a single image.



Making a Composite Image

We looked at the entire process of evaluating and correcting an image in the previous chapter. One step beyond working with a single image is combining images for a finished result. We touch on that in the brief example of replacing the sky in Chapter 6. The bland sky in the original exposure was replaced with another sky, shot moments later, with the intent of improving the original exposure. All that was required was planning a result, and following through by making additional captures, and then using the layer features to achieve the result. The ability to target change, enabled by layers, allows you to greatly enhance your captures, and, in essence, allows you to expand on the capability of your equipment.

In this chapter, the emphasis is on considering the ideas of compositing. First we'll look at the idea of collage and then get into more rigorous ideas for expanding your canvas.

The Adobe Photoshop Layers Book.
© 2012 Richard Lynch. Published by Elsevier Ltd. All rights reserved.

Composite for Collage

Collage is supposedly derived from the French word *coller*, which means "to paste" – fitting to the idea of isolation that we looked at early on in this book via copy and paste. We started with the simple idea of pasting, and here we come full circle, returning to the earliest techniques to produce the most complex results. A collage is simply a collection of images, used in part or in whole or cropped out to specific areas, combined or pasted together to create a collective visual. In other words, in making a collage you gather source materials from two or more images and paste them together. It's that simple. Simple in idea, but potentially complex in execution.

A collage can be anything from the old grade-school exercise of taking out a bunch of old magazines and cutting out images and then pasting them to a larger sheet of paper to far more elaborate adventures in imaging. The photographic equivalent is taking a group of pictures, extracting the interesting parts, and combining them to achieve a result. It can be a simple array of images (say a grouping of family photos), organized themes, cleverly composited or completely haphazard. It can be humorous, serious, realistic, surreal, artistic, and more. When you are bored or have a moment to exercise some creative muscles, it can be great fun, and good technical exercise.

Guidelines for Collage

Because collage can follow many forms and none is right or wrong, guidelines for making a collage can only be general. You have to supply the image choices and creative direction. Below, find my 5 Cs of collage:

1. *Collect your images*. You can do this in a variety of ways, from going out and shooting new images to rummaging through old files. At the very least you should be using a minimum of two images … there is not really an upper limit except for what time allows.
2. *Create your canvas.* Create a new image about two times the size of the finished project. This will give you some layout space to work with and elbow room for placement of the images. You can crop the image down later (or use a Cropping Layer) or you may find you just end up filling the space! At the very least this should be two times the width and height of the largest image you plan to use.
3. *Correct your images.* Never neglect to make changes in individual images just because you are going to composite them. The advantages of layer corrections especially will be lost if you wait until later.
4. *Clip out*. Like scissors to a magazine, you have the layer tools to start snipping up your images. Make selections and masks to isolate image areas that you will be using in the final collage, and move those components to the canvas created in step 2.
5. *Compose*. With all the images in the new canvas you can spend some time adjusting positions, compositing, blending, correcting, and meshing.

There is no limit to what you can attempt, and this step can take many hours depending on the complexity of what you are attempting.

Things to Keep in Mind

Collage doesn't have to appear flat and can include effects (e.g., drop shadows), patterns (like scrapbooking), and other graphic elements – instead of just images. When you isolate image components, you are giving yourself the opportunity to orchestrate the entire result. Take that opportunity to control the components and how they fit together by using layer advantages to target change.

An Example Collage

Making a collage is a great way to find purpose for those images you would possibly otherwise think belong in the digital trash. In a way it can be like cloud gazing, by which you stare at images until something pops into your head; or you can come at it with a purpose from the outset and fulfill your vision. The images may not need to be superior, or even on a common theme, but should be shots that can be somehow managed and merged. For example, take a look at the grouping of shots in Figure 7.1.

In this case it is possible to set to work just snipping out the objects and let imagination take over. For example, this might be the source for a somewhat other-worldly scene in which the vacuum is given life, adorned with wings from the butterfly, making its rounds to a bright flower with a strangely twisted stem. To create the scene you might start by creating a new image and then grouping image elements for the butterfly vacuum, and then make the strange flower. This goes a few steps further than a typical collage in that it blends the selected images into something new (see Figure 7.2).

Be cognizant of light and direction when compositing objects from different images. If you are putting together a wholly new object, and attempting photorealism, you need to ensure that the lighting and light direction on objects in the scene don't conflict with each other or it will look wrong. The lighting on all elements of your scene should match (quality and direction) or it will appear unnatural. You will find that this goes for focus as well.

Every one of the techniques required to complete the result was covered in this book. You can probably tell what most or all of the techniques used were by examining the sample processed image on the CD (Sample_7.1_Processed.psd). You can also attempt to replicate the result or make your own/different collage with the same photos (Sample_7.1_a.tif, Sample_7.1_b.tif, Sample_7.1_c.tif, Sample_7.1_d.tif, Sample_7.1_e.tif).

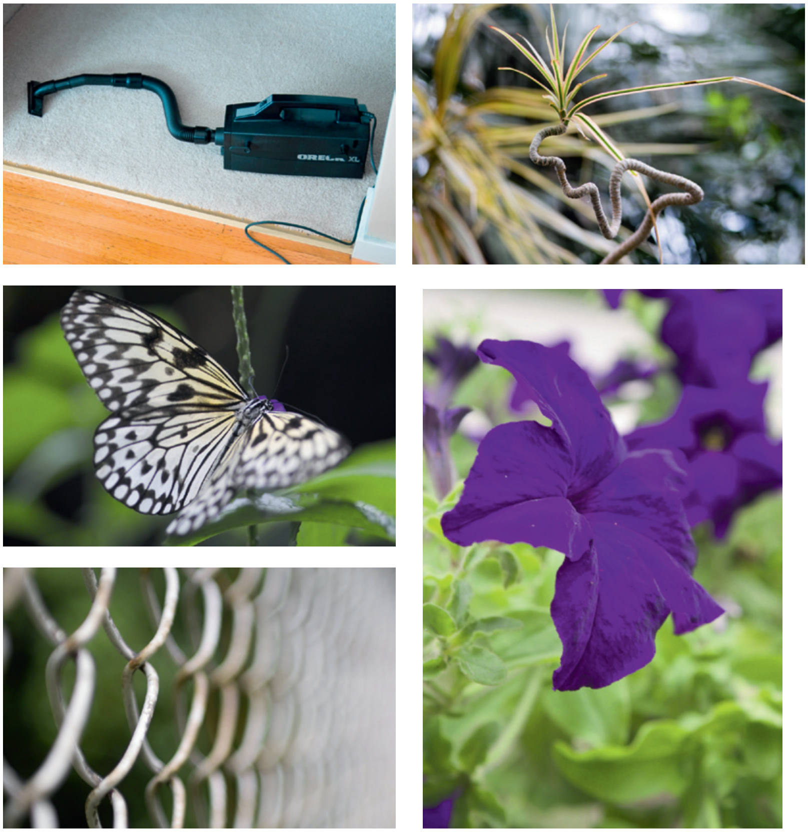


FIG 7.1 Although there is no central theme to the images selected here, each has something that is central and singular

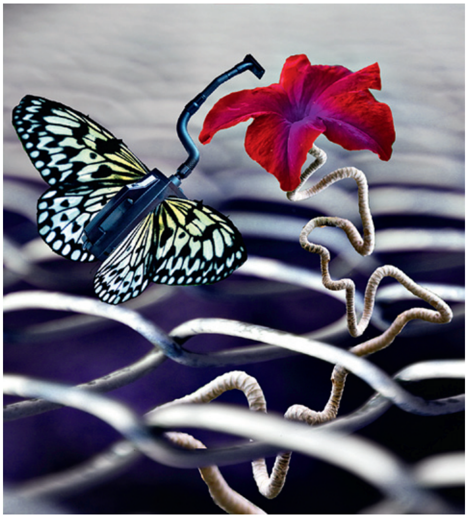


FIG 7.2 Once the major components are created, they can be fitted together in a cohesive whole in the strange terrain

Working with collage can really stretch your layer muscles. The fun part is that the results don't always have to be realistic, and you can practice with aimless ease. Know that all the time you are practicing you are enhancing your editing skills. As an exercise for this section that you will try at your leisure, go and shoot five to seven objects in your house, yard, or neighborhood, and combine them, somehow, into one canvas. It is probably best if you approach this exercise with the idea of having fun in mind, without the goal of producing something perfect. A casual approach will allow you to explore more without expectation, and you will probably be surprised at what you learn.

I would be glad to see creative collages made either with these sample images or from other groupings. See the website and forums (http://photoshopcs.com) to post your images.

Collage can be constructive and fun. But shooting images with the intent of creating an enhanced result allows you to shoot what might otherwise be impossible and can expand your canvas beyond the limitations of a single frame.

Shooting Multiple Source Images with Purpose

In times of image trouble one of the greatest options to have is the availability of more than one source image to work with. If you take several shots of the same scene, you are really safeguarding yourself for any corrections you might have to make. For example, if you are taking a posed family shot, taking several images of the same exact setup can give you the source to replace blinking eyes, turned heads, cliché gestures, and the like. But it can also save you from focusing errors, exposure glitches, and other momentary problems that might otherwise cost you the shot. If you are on a trip to a scenic spot and you think you got the shot, take the same one again. Chances are you won't be coming back all too soon and if you find your hand was a little shaky in the first frame, you'll have possibly saved the shot by squeezing off one more. Additional images can be used for patching, copy/pasting, and otherwise fixing a variety of things that go wrong.

A similar philosophy works to help you get more out of an image. In Chapter 6, the example image was chosen from a series of shots that left open the possibility to work with the concept of HDR composite (which we'll look at later in this chapter), but also evaluating the scene to make sure any extra source shots were there. That is what led to shooting a few additional frames of the sky so they could be merged later for what would hopefully be an improved result. Having the additional source images left many options open for editing.

Taking that idea a step further, there are a variety of ways to use composites to actually expand the capability of your equipment.

- Expand the physical size and dimensions of an image in pixels by merging shots taken by panning a scene, and framing it in segments.

- Expand the dynamic range of an image by capturing source shots that cover different exposure ranges (highlight, shadow, and midtone) and merge those shots to overcome dynamic range limitations of your equipment.
- Enhance the depth-of-field in an image by combining shots focused at different depths from the camera (sharpening what might be blurred, or blurring what might be sharp).

Achieving these things successfully is something you can really do almost on the spur of the moment once you have a little understanding of how they work and what you need to do to get good results. Enhancing the dimensions of your shots by knitting images together is often called shooting panoramas, though the possibilities for this go well beyond panoramic shots. Enhancing the dynamic range of a capture is often called HDR (high dynamic range) imaging. We'll look at the idea of how to shoot both of these "projects" and then consider the implications for working with the shots in layers.

Set Up and Collecting Images for Panoramas

Images shot for a panorama are taken in a series – usually in quick succession – and the series of images is connected to create a continuous landscape (see Figure 7.3). The photos are usually taken in a vertical or horizontal pan to capture a broader or taller area than you would normally get in a single frame with whatever lens you are using. Because you take several overlapping images shot in succession – perhaps using a tilt (vertical movement) or pan (horizontal movement) of a tripod – your resulting image will have more image information once stitched together than any single frame and can be enlarged more as a result.

Good panoramas are a little tricky to shoot and often tricky to stitch together seamlessly. Using good technique while shooting the source images helps simplify processing and leads to better results. Getting the best result requires making the most of the basic steps in collecting the images.

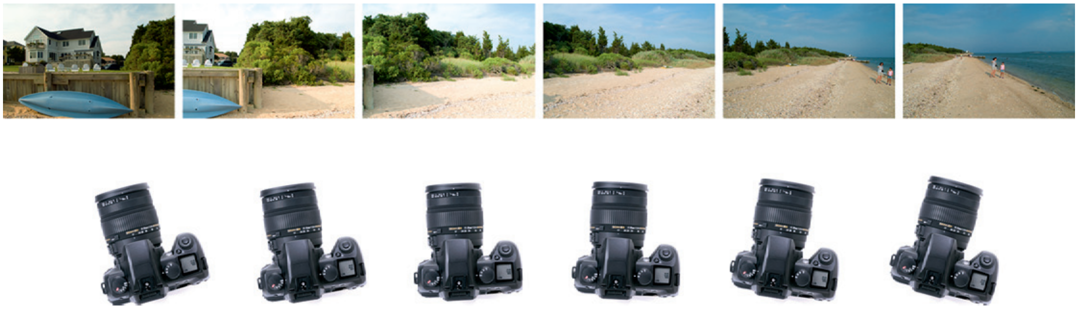


FIG 7.3 This shows six shots taken panning a camera across a scene. When stitched together they form a continuous whole

Setting up right will improve your changes for success greatly. Getting your camera on a tripod is a good start. Making sure the tripod is level is even better. Working correctly with a panorama head can help you by allowing you to position the camera so the center of the focal plain is at the center of the pivot point. A panorama head does not have to be expensive to do the basic job; in fact I have used home-made panorama rigs fashioned from spare parts that work just fine. The main goal of using a panorama head is to position the camera to reduce or eliminate parallax issues. A good panorama head is only more important when you are trying to achieve complex results (multi-row panoramas and spherical shots). People shoot panorama sources hand-held as well. It can be done, but the merging is more complicated. Test the panning movement before shooting so you can identify any potential issues.

I use a Nodal Ninja Full Spherical head when shooting panoramas (see http://aps8.com/nodalninja.html). It is lightweight, versatile, full-featured, and medium-priced.

One of the potential issues is that lighting conditions and content change as you pivot the camera, and cameras in any type of auto-exposure mode will compensate for the differences between shots. In fact, on a partly cloudy day, the lighting can change moment to moment if you are within reach of natural light. That means changes in focus, aperture, shutter speed, and color balance might all affect the quality of what you capture. This leaves you with a lot of tone and color changes to correct in post-processing. The not-so-obvious partial solution is to shut off auto-exposure modes and shoot with manual exposure and probably manual focusing as well – though your choices as to how to manage the shots may depend on the situation. Switching the camera to a manual mode first – before shooting any of the images – can save you from having to make exposure-related corrections, IF the lighting conditions are cooperating and remaining constant. Shooting some test shots, metering the scene, and deciding on the exposure setting to use for the whole series will put you in position to get the best source. Good source makes merging the frames easier, and your work at the computer a lot quicker.

- Set up on a tripod (or be aware of the potential issues of hand-holding the shots).
- Take note of the lighting conditions and define a strategy for shooting and exposure choice.
- Plan the movement of the pan, and practice it while looking through the viewfinder. Be sure to overlap shots 30% to 50% so there is a lot to work with in making the merge.
- Take the shots being careful to follow your plan and use good technique in shooting – one wrong shot that leaves a gap, and a panorama can fail.

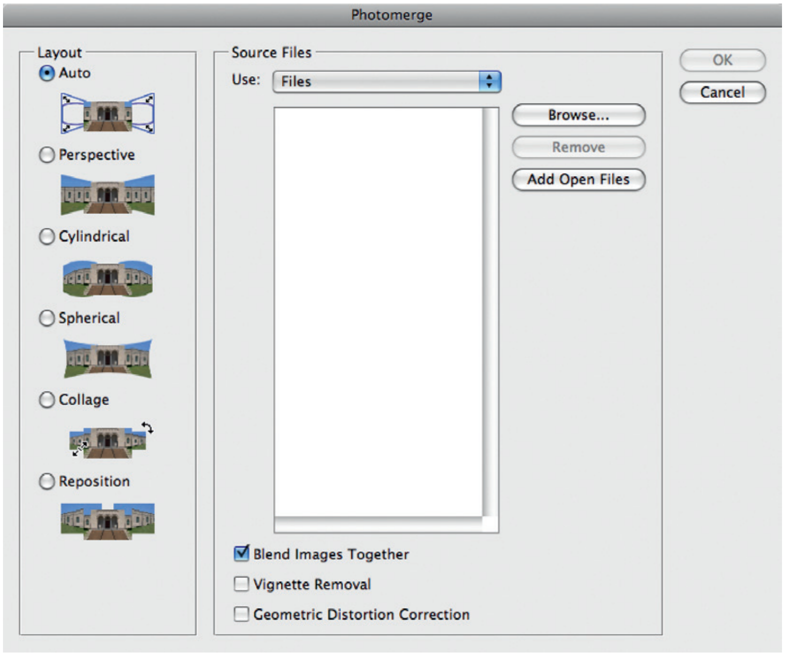
Even the best laid plans can develop a wrinkle, so you may end up relying on your Photoshop skills to make the result work, even with the right planning. You may want to consider shooting the string of shots twice, and maybe do a second variation (different camera position or different exposure). Experience will help, so go out and shoot a few and process them just for practice.

Once you have captured the images, you have options for how to process them. Photoshop offers an automated tool that can set you up with good automated results. It is absolutely perfect for simple panoramas, and often good with complex results. Even in those instances where it does not handle a merge exactly as desired, it can help with manual processing as well by providing a quick rough in of the result.

Using Automated Panoramic Tools

Photoshop's automated Panorama tool is accessed from the File menu (File>Automate>Photomerge or from Bridge Tools>Photoshop>Photomerge). The Photomerge dialog will open (see Figure 7.4); it allows selection of the images you want to merge and a plethora of options for controlling the result. Just browse for the images you want to merge, choose your options, and click OK. Generally the results of a merge will be pretty good with a properly shot series of images, and Photoshop will leave the images on separate layers with masks that can be adjusted. It's a fun and easy tool for creating even complex photomerges.

The more extreme your shots the more difficult they will be to get right in a merge. If you shoot a simple series from a distance that will be a fairly easy merge. On the other hand, a situation with objects close to the shooting position will raise the difficulty of a successful merge.



● Auto
○ Perspective
○ Cylindrical
○ Spherical
○ Collage
○ Reposition

Use: Files

☑ Blend Images Together
☐ Vignette Removal
☐ Geometric Distortion Correction

FIG 7.4 The results of a merge will be influenced by choices you make in the dialog. These include the Layout options and check box selections (see descriptions). Any of the selections will automatically position the images and automatically build a canvas, which is valuable in itself

Tip

Though it generally does an excellent job of matching content, Photoshop is not always able to determine how images in the series fit. When that happens, the program will issue a warning, and will still generate a result with the parts it could not fit offset from the merged parts. When this happens, it is possible to work with the fragment parts manually. Another solution is to build the result by merging smaller segments of the image series, saving the segments, and then merging the resulting segment parts in another merge.

Layout Options

Auto	Selects a Perspective, Cylindrical, or Spherical layout based on the image content (the "Do It For Me" selection).
Perspective	Chooses a center image and fits additional images to that via stretching distortion to compensate. The result has a skewed perspective where the center is contracted and the edges are expanded.
Cylindrical	Chooses a center image and fits additional images to that via stretching distortion to compensate. The result attempts to reduce skewing distortion.
Spherical	Chooses a center image and fits additional images as if they were shot with a spherical lens.
Collage	Aligns content using rotation and scaling only.
Reposition	Aligns content without distorting source layers.

Blending Options

Blend Images Together	Determines where borders between the images are, creates masks, and color matches the result.
Vignette Removal	Performs exposure compensation on the edges of images that have darkened edges.
Geometric Distortion Correction	Compensates for barrel, pincushion, or fisheye distortion.

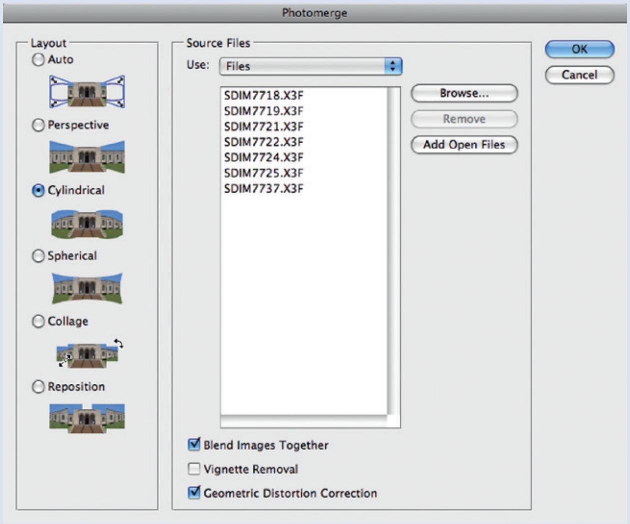
The options you choose should be based on what you are trying to accomplish with the merge. The illustrations by the Layout options are actually pretty helpful representations of what to expect.

You will probably want to start out shooting simple with panoramas by just pivoting the camera vertically or horizontally to capture your subject(s). You'll really need only two successive shots to see how it works. Once you get to shooting multi-shot panoramas, horizontal and vertical movements become just the tip of the iceberg. Also consider that you can make "dolly" movements, or change the position of the camera to capture the scene. You do not have to strictly adhere to making pan or tilt movements: you can make a panorama with several rows of shots, or even with random camera movements that change angles.

The first step is to give it a try by shooting your own series of images and stitching them together with Photomerge. You can also practice with some images I include with the downloads (see the Panorama series Sample_7. Panorama). There are seven images in the series.

Try It Now: Make a Panorama with Photomerge

1. Open Photoshop.
2. Choose Photomerge from the Automate submenu on the program's File menu (File>Automate>Photomerge). This opens the Photomerge dialog.
3. Click the Browse button and open the seven images included in the Sample_7.Panorama folder. These images are .X3F files, which is a RAW file configuration for Sigma cameras.
4. Choose the Cylindrical layout option and check the Blend Images Together and the Geometric Distortion Correction check boxes. Your dialog will look like that shown in Figure 7.5.
5. Click OK. It may take several minutes to process the images into the result. The result should look like that shown in Figure 7.6.



Photomerge

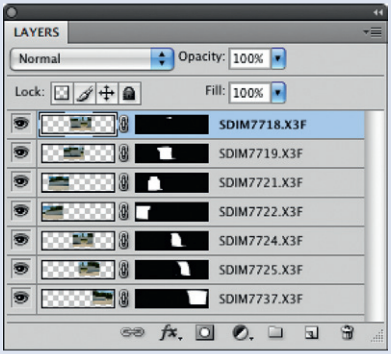
Layout
○ Auto
○ Perspective
● Cylindrical
○ Spherical
○ Collage
○ Reposition

Source Files
Use: Files

SDIM7718.X3F
SDIM7719.X3F
SDIM7721.X3F
SDIM7722.X3F
SDIM7724.X3F
SDIM7725.X3F
SDIM7737.X3F

☑ Blend Images Together
☐ Vignette Removal
☑ Geometric Distortion Correction

FIG 7.5 The listing of images you selected will appear in the dialog



LAYERS
Normal
Opacity: 100%
Lock:
Fill: 100%

SDIM7718.X3F
SDIM7719.X3F
SDIM7721.X3F
SDIM7722.X3F
SDIM7724.X3F
SDIM7725.X3F
SDIM7737.X3F

FIG 7.6 The shape of this is a little less than perfect, but that can be adjusted in post-processing

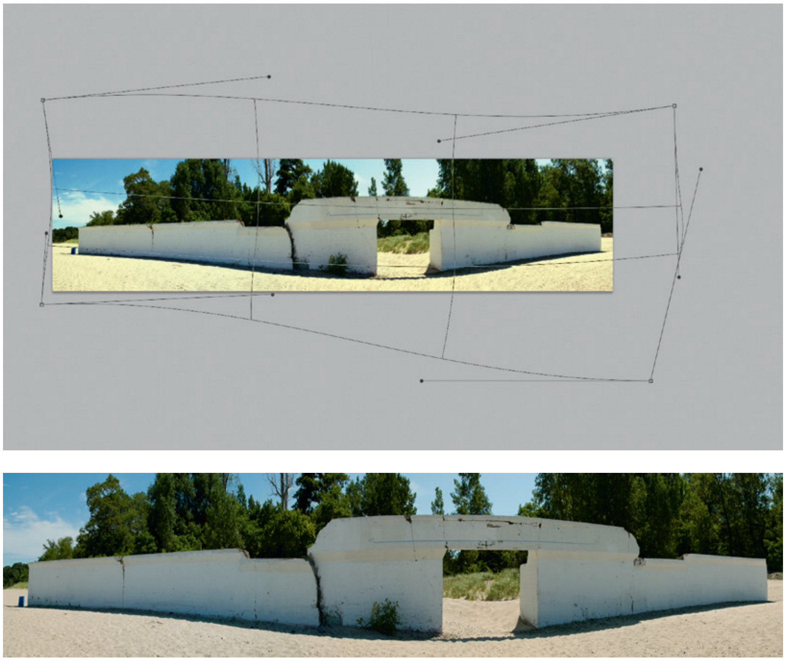


FIG 7.7 You won't always want to distort to fill the frame, but I often find it to be a handy cropping mechanism

That is all there is to creating the panorama. Now you can start with post processing. I like to use a snapshot of the result and the Warp tool to make the image fit to the frame. (See Figure 7.7.)

With the image cropped, it is time to evaluate the image for change and proceed with corrections in layers!

Using Manual Methods to Create a Panorama

Making the panorama manually allows you a lot more control over how the images get put together. You can work completely in a manual process, or you can semi-automate the effort. The manual method requires all of the following:

1. Shoot your images.
2. Create your canvas.
3. Compile and collate the images on the canvas.
4. Blend the images.
5. Evaluate and correct the result.

The semi-automated process creates the canvas and compiles and collates the images for you. We have already covered how to shoot the image and how to evaluate and correct images. Let's get some detail on those middle steps.

Create your canvas. Creating the canvas is done automatically with the automated processes. However, in the manual process, you will have to decide

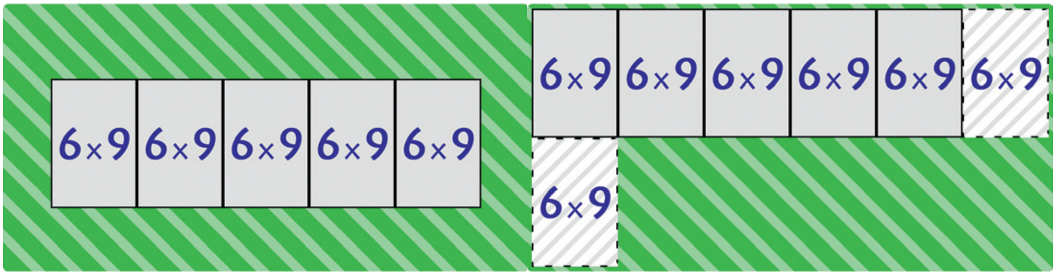


FIG 7.8 The calculations for the image size are to keep the numbers simple. It is best to calculate pixels, as the pixel count will be a more reliable measure and you will not have to worry about PPI differences in the images

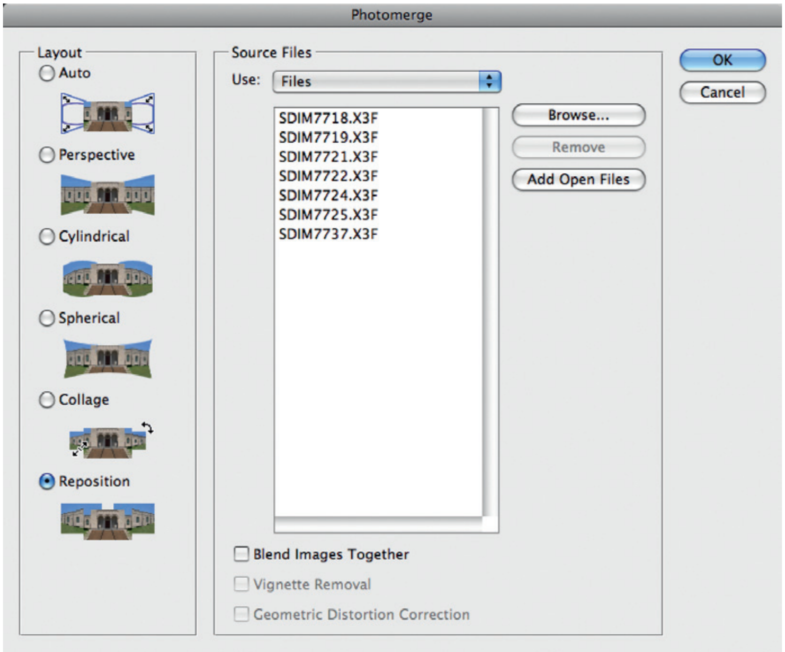
on a canvas size manually. As with collage, you leave generous layout space to work with and elbow room for placement of the images. You can trim the extra after everything is in place. Make the canvas the full width and height of the shots you are using plus one. So, say you are using five images that are each 6×9 (w×h) in a horizontal panorama. There would be five shots horizontally and one high. You would make a canvas that was six shots wide and two high (with one "extra" in each direction). The canvas would be 36×18 and offers plenty of "play" room. (See Figure 7.8.)

The Semi-automatic method covers creating the canvas and compiling and collating the images. To skip these two steps you would do the following:

a. Open the Photomerge dialog.
b. Select your images.
c. Choose the Reposition option for the Layout and uncheck all the blending options. Your dialog would look like that shown in Figure 7.9.
d. Click OK, and Photoshop will create a canvas for you while positioning the images based on a best guess.

Compile and collate the images on the canvas. Compiling all the images means getting them all into the new canvas and ordering them in series and in position. If the series was shot horizontally, start stacking the images in layers with the left-most image on the bottom of the layer stack, and work right in the panorama as you add layers so they remain organized in the layer stack. If the series was shot vertically, stack from bottom to top (in the order of shooting). Ordering in layers will help organize your plan and help the layers work for you rather than being a discontinuous mish-mosh.

Positioning can be very tricky. This is where the technique used in shooting can really help simplify your task (and where the semi-automated option may save some time). If you used a panorama head (correctly) you will find it fairly easy to get a decent placement. On the other hand, a hand-held series where you failed to control the exposure can be challenging. The shots can be all over the place as parallax, tilt, and other issues come into play to make it difficult to find a relative alignment of the images. At this point in the manual process, go for the best relative positioning of the shots without making adjustments to the individual frames.



Photomerge

Layout
○ Auto
○ Perspective
○ Cylindrical
○ Spherical
○ Collage
● Reposition

Source Files
Use: Files

SDIM7718.X3F
SDIM7719.X3F
SDIM7721.X3F
SDIM7722.X3F
SDIM7724.X3F
SDIM7725.X3F
SDIM7737.X3F

☐ Blend Images Together
☐ Vignette Removal
☐ Geometric Distortion Correction

FIG 7.9 Photoshop will create the canvas and position the images for you if you use these settings, leaving you the opportunity to do the blending and shaping yourself

Blend the images. Blending is where layers become a part of the process and define a decided difference between the automated and manual result. Because each image remains in their separate layers the seams between images can be blended in whatever ways using Layers enables. The easiest technique (the earlier versions of the panorama plug-in is based on this) is simply making a gradient blend at the seam from black to white to mask the layers so that one image simply transitions to the next. More advanced methods of blending will find you adjusting the shape of the individual frames to compensate for lens distortion (the Warp tool can be very helpful for this, but Transform may also get the job done in most situations) as well as using masking. In some cases, you'll want to incorporate layer clipping for adjustment layers or other targeted change that eases the transitions. Layer masks are highly recommended for blending one layer to the next rather than erasing or other methods of destructive processing. Lowering opacity of the layers you are adjusting during the blending process can help you see better where edges match and how adjustments are working in the result.

Again, once you have the panorama stitched together you need to treat it like a newly opened image. You'll want to go through all the steps of correction from Levels and cropping to spot corrections to be sure you are making the best image. Start with evaluation and see where you want to go. Though it may have been a lot of work to get to the point of having a neatly stitched image, it really is a starting point for correction.

Tip

Do not abuse resizing and Transform tools when fitting layers together! Apply adjustments only once to a layer, rather than in a series of shape changes. Like resizing, adjustments with Warp and Transform use calculations to interpolate (add) and decimate (remove) image information based on the changes you make in the shape. Multiple adjustments compound the interpretations and lead to additional degradation of image quality.

The significant contribution of shooting and processing panoramas is the ability to collect truly unique and interesting images that would be impossible to collect in a single frame. The gain in pixel dimension makes for resulting images that have more resolution than a single-frame image would have, and because of that they can be printed at much larger sizes (depending on the number of shots and the layout).

Let's continue the exploration of expanding the canvas by looking at HDR images.

Working with HDR Images

HDR stands for *high dynamic range*. Images that are HDR have greater dynamic range than standard images. Specifically it refers to images that are 32-bit, twice the number of bits in a 16-bit image and at least 35 trillion times the color possibilities of even 16-bit images. Really there are more color possibilities than that, because of floating point notation, which extends what the bits can represent. Because there is so much potential image information, HDR images offer a huge potential gain in the image information that can be stored in an image file. At the same time they come with huge limitations. Your monitor can't display the detail of HDR images properly all at once, you cannot print them, and true HDR images do not fully support all layer features.

As exciting as the potential of HDR images is for capturing and retaining more image information, the real interest in the photographic community in HDR recently has less to do with HDR images themselves than with what those HDR images end up getting turned into after processing. Images processed from HDR originals have to be altered to be fully displayed, and the results are often artistic renderings of a scene made using various techniques to postprocess an assembled HDR image. The images can be surreal, or grungy like the warehouse loading dock we processed in Chapter 6. However, depending on how they are processed, they can affect characteristics of watercolor and other artistic effects, as well as a reality more like the way the human eye perceives a scene. In reality, to call the images that result from processing "HDR images" is to use a misnomer, as they are images *converted from* HDR. It doesn't make them bad, or undesirable, just different from true HDR images. All I want to keep in your mind here is that HDR images and the effects you see attributed to them are two different things. We'll look at both creating HDR images and processing them to attain a result in this section.

Making an HDR Image. The potential dynamic range of a standard image that comes off your camera is determined by the bit count. The limitations the bit count puts on your range of exposure can be very frustrating: when you expose for midtones, detail in both the highlights and the shadows can suffer. When you expose for either highlight or shadow, the opposite end of the spectrum suffers for the attention in the capture. The goal of shooting HDR is to combine the benefits of exposing for more than one range so you can get the most out of highlights, midtones, and shadows. That potentially means the ability to capture better images with more detail in color depth. Because our eyes are generally more forgiving and have greater dynamic range than a camera and lens, we often perceive more than we can grab in a capture. HDR images, which allow a greater dynamic range, would be images closer to how we see (or what we think we see).

Making an HDR image technically takes no more than two exposures. That is, you can make an exposure that favors the highlights in a scene and then a second exposure that favors the shadows, combine them in a higher bit-count image, and make a more robust exposure of the same scene. You also would need a way to combine the images in a logical fashion so as to make the best use of their respective ranges of exposure. That is, find a way to mix in the exposure ranges without driving yourself quite nuts doing so. Often, HDR images are taken with at least three exposures, and sometimes many more. Each exposure needs to give you information the other exposures would not be able to in order to be an effective component of an HDR image. If the range of light that you could capture in a scene is already within the range that you can get in your camera in a single 16-bit image, HDR is a waste of time. The real interest of HDR is in capturing details in a scene that you would otherwise miss in a single exposure. HDR is interesting and yet becomes the realm of "extreme" images, in which lighting conditions exceed the limitations of the hardware (your camera and sensor).

If you want to take a true HDR image, you need to take shots in scenes in which there are special needs. These scenes should have content for which the exposure ranges extend beyond the range your camera can see in a single exposure.

So, with that in mind, here is the basic procedure for capturing and creating a true HDR image:

1. Define a scene that cannot be captured in a single exposure. These are usually images that have very distinct exposure zones: exposing for the highlights would mean leaving the shadows underexposed; exposing for the shadows would leave the highlights overexposed. Examples might be taking pictures of stained glass windows inside a dim church where you want to include the inner decor of the church, or shooting a sunrise or sunset where the foreground is silhouetted.
2. Take exposures that will cover the exposure zone(s) you have identified in the scene. This can vary widely depending on what you hope to accomplish. If doing your own image series, you'll want to take at least three shots with some exposure difference between each shot.
3. Combine the images into an HDR (32-bit-plus) image. This can be done in Photoshop or with other applications and plug-ins. We'll look at making the HDR images in Photoshop and an example of working with them manually to obtain an HDR result below.

Exposure for HDR

Exposures for HDR can be differentiated in a variety of ways. Most common would be to shoot a series of images varying the shutter speed to favor different tonal/brightness ranges in the scene. As an alternative, you could adjust the aperture; however, the response in the captures may be less predictable as the change in aperture will vary the depth of field. Finally you might keep the aperture and shutter speed constant and allow the lighting in the scene to change. The last of these may prove most challenging and time consuming.

Create an HDR Image in Photoshop

Creating an HDR image in Photoshop can be very simple, though the results may not immediately be what you had hoped for or expected. Combining the images into an HDR image will not be the last step, as the conversion to 16 or 8 bits will be necessary to make the image truly useful.

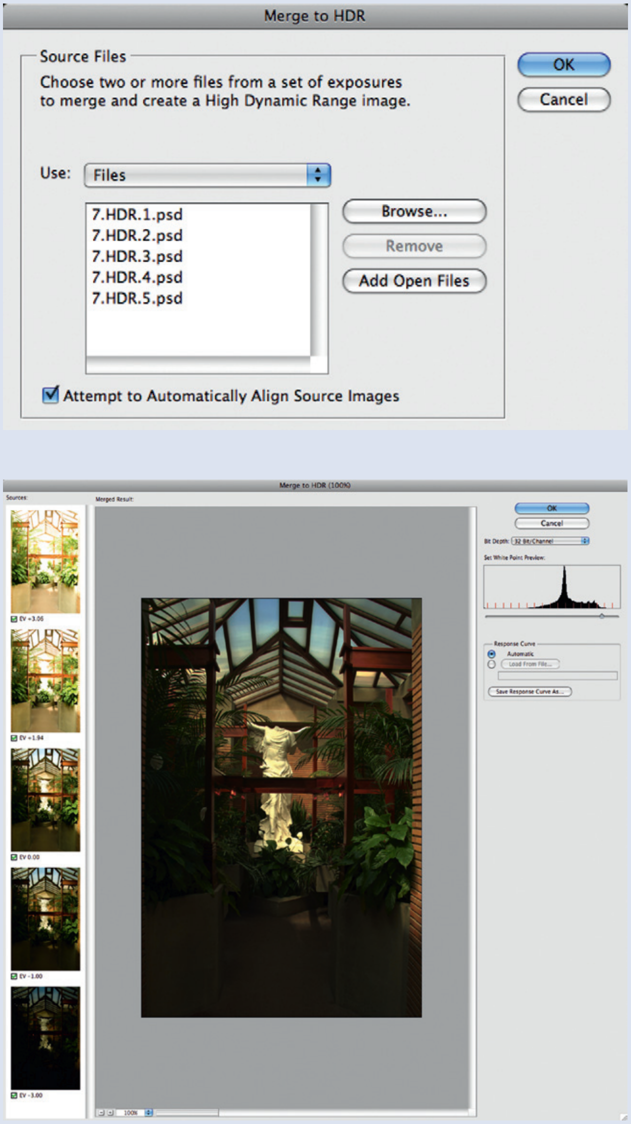
Try It Now: Creating an HDR Image

1. Open Photoshop.
2. Choose Merge to HDR from the File>Automate menu. The Merge to HDR dialog will appear.
3. Click the Browse button to locate the files you shot for the HDR image. Leave the checkbox for Attempt to Automatically Align Source Images unchecked if you have used a tripod. For a test case use the images shot for this purpose included with the downloads in the Sample_7. HDR folder. There are five images.

These images were shot with special permission at the Darwin Martin house, designed by Frank Lloyd Wright on Jewitt Parkway in Buffalo, NY. Special thanks to Eric Jackson-Forsberg for permissions to shoot on the site! Please visit http://www.darwinmartinhouse.org/ for more information.

That is really all there is to creating an HDR image. In actuality, the full range of tones for the images that you merged is now housed in the single image, and you can peruse that difference during the conversion by changing the position of the white point slider on the Merge to HDR dialog at the right of the screen. With the image information successfully stored in one place, you want to archive your HDR image, as once you convert it from 32-bit, the additional information will be lost. So... save this image to a temporary spot on your hard drive.

4. Click OK to start the merge. The merge can take a while depending on the size of the images and the computer you are working on. The Merge to HDR dialog will appear after the images are incorporated, allowing you to make a few adjustments at this time. (See Figure 7.10.)



Merge to HDR

Source Files

Choose two or more files from a set of exposures to merge and create a High Dynamic Range image.

Use: Files

7.HDR.1.psd
7.HDR.2.psd
7.HDR.3.psd
7.HDR.4.psd
7.HDR.5.psd

☑ Attempt to Automatically Align Source Images

Merge to HDR (100%)

Sources:

☑ EV +3.06
☑ EV +1.94
☑ EV 0.00
☑ EV -1.00
☑ EV -3.00

Merged Result:

Bit Depth: 32 Bit/Channel

Set White Point Preview:

Response Curve

● Automatic
○ Load From File...

FIG 7.10 Adjustments include choosing which images to include in the merge and adjusting the mean brightness

5. Click OK to open the HDR image in Photoshop in 32 bits. Depending on your choices in the dialog, the result should look something like Figure 7.11.

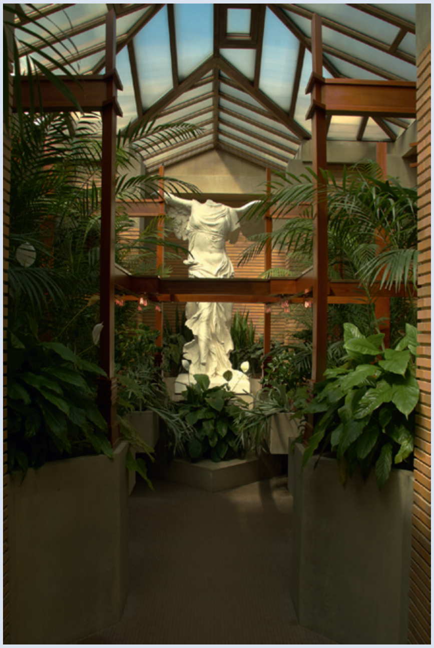


FIG 7.11 Although it may not look very exciting, the result you see has to do with the fact that there is far more image information than your monitor can reliably display

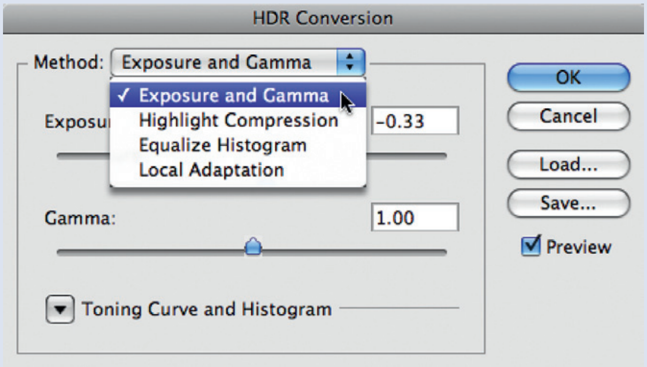
For most people the next step is what really makes for interest in the concept of HDR images. We'll convert the 32-bit file into something that is more readily usable, and we'll look at automated and manual conversions in the following sections.

Automated HDR Conversions. Converting the image to something usable from the 32-bit image can again be done with third-party products or right within Photoshop. There is really no right or wrong way, and some of the tools/plug-ins touted for making HDR conversions are revered more for artistic license than for realistic conversions. Let's take a look at how to do it in Photoshop with your hands at the controls using the HDR image you just created.

That is really all there is to it. Your decisions on the conversion dialog will make the difference in the result. Those who are familiar with what are touted as HDR images will be most interested in the Local Adaptation option, using variations in radius and threshold. Third-party plug-ins will have more variation along these lines. But whatever choice you have made (see Figure 7.13), your HDR conversion is complete, and you can go about using the image like you would any 16-bit image.

Try It Now: Automated HDR Conversion

1. Choose 16-bit from the Image Mode menu (Image>Mode>16-bit). The HDR Conversion dialog will appear.
2. Choose a conversion method from the drop-down list (see Figure 7.12). Depending on the conversion method you choose, you will have more or less control over the results. See the descriptions below (Table 7.1).
3. Click OK to complete the conversion.



HDR Conversion

Method: Exposure and Gamma

Exposure: -0.33

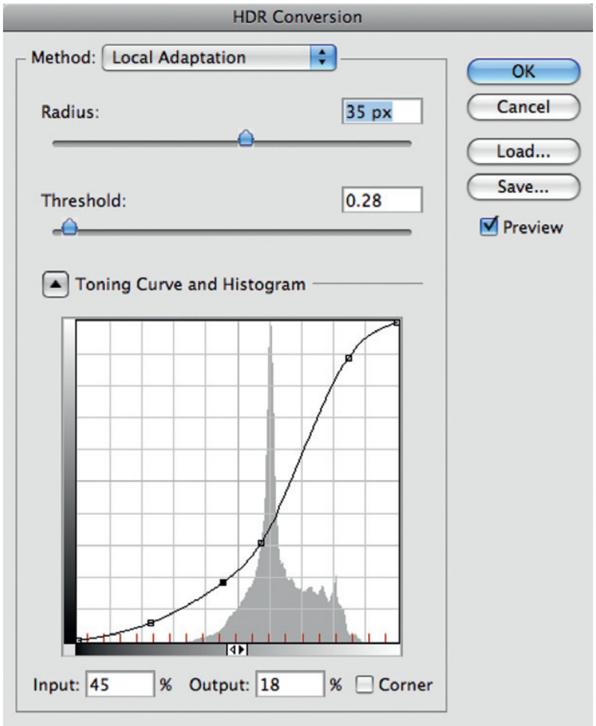
Gamma: 1.00

☑ Preview

FIG 7.12 This dialog is deceptively simple. You can define dramatically different results using the options. Essentially, what you see according to the preview is what you get in the result

TABLE 7.1 Conversion Methods

Conversion Method	What It Does
Exposure and Gamma	Lets you manually adjust the brightness and contrast of the HDR image using sliders
Highlight Compression	Compresses the highlight values in the HDR image automatically so they fall within values compatible with 8- or 16-bit image files. This method is automatic with no user input
Equalize Histogram	Compresses the dynamic range of the HDR image while trying to preserve contrast. This method is automatic with no user input
Local Adaptation	Adjusts the tonality in the HDR image by calculating according to local brightness. Allows users to apply Radius, Threshold, and Curve adjustments. This can result in more creative results



Method: Local Adaptation

Radius: 35 px

Threshold: 0.28

☑ Preview

Input: 45 % Output: 18 % ☐ Corner

FIG 7.13 These are the settings I chose for a conversion of this image. Choices are very much image dependent

The conversion itself should really not be considered an endpoint, and you may want to convert more than once from the same original for different purposes. For example, if you use the 32-bit image to create a new set of exposures, you could run through the manual process with the best possible source and come to a good conclusion. Additional changes from this point should come from evaluation of the image and applying the layer process.

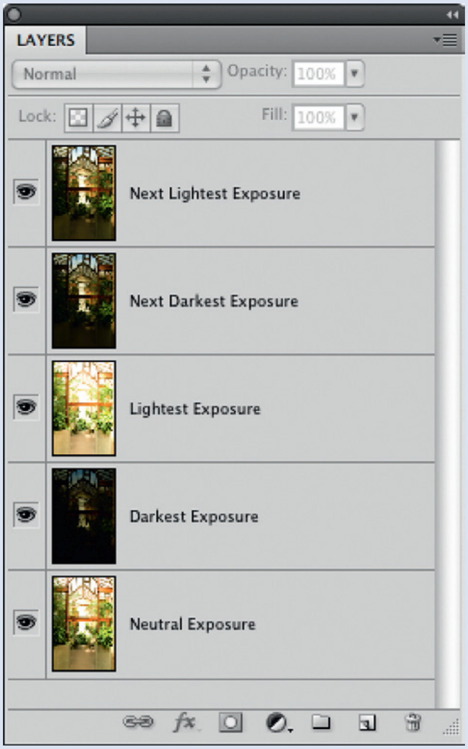
Let's have a look at how you might handle the entire process manually to get a better idea of what you are accomplishing in the automated result. The following never really creates a 32-bit HDR image, but the result is made from the same multiple exposures and can easily mimic HDR-converted images.

Manual HDR Conversions. Automated conversions may not be terribly intuitive nor may they result in the final image you expect – at least not without a lot of alteration. Being suspicious of automated adjustments, I tend to prefer working images manually, as ultimately I have more control over the result. Like nearly any other change in Photoshop, a hands-on approach may yield a better result that any automated one. You know what you prefer and you can react to differences, whereas an automated solution just performs a calculation. The following works through a simplified process of compiling an HDR result (not the same as an HDR image) from the sample images, starting with the sample exposures.

My goal for the image is to reveal as much of the scene as possible.

Try It Now: Manual HDR Conversion

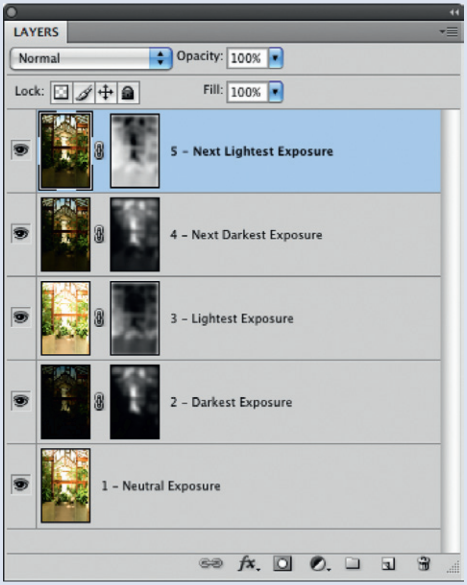
1. Open all of the HDR sample images from the download in the Sample_7.HDR folder.
2. Assemble the images into a single layered image. Use the most neutral exposure as the base. Then add the darkest, lightest, next darkest, next lightest, etc. (that will complete the layer stack for the example image, but you would continue stacking if you had more shots). See Figure 7.14 for what your Layers palette should look like.
3. Number the layers from the bottom of the stack so the bottom layer is #1, the next is #2, etc.
4. Shut off the Visibility toggles for all the layers except the neutral layer (#1) and the layer immediately above (#2). Then load the luminosity as a selection. To do this, open the Channels palette and Command+click/Ctrl+click (Mac/PC) on the RGB thumbnail.
5. With Layer #2 active, convert the selection to a mask. The mask will automatically fill to allow highlights in the layer to pass. As the layer is the darkest content, the mask will block the dark areas and allow the lighter areas of the darker layer to seep through. This will darken the highlights.



Next Lightest Exposure
Next Darkest Exposure
Lightest Exposure
Darkest Exposure
Neutral Exposure

FIG 7.14 Organized stacking of the source images will help you work through the corrections – seems like a layers mantra

6. Blur the mask. The amount to blur will vary with the size of the image and desired effect. The goal of the blur is simply to make the information blend.
7. Make a Levels correction to the mask. The goal is just to extend the RGB dynamic range so there is white and black in the mask.
8. Turn on the view for Layer #3, and load the luminosity as a selection again (it will be slightly different based on the currently visible layer).
9. Be sure Layer #3 is active, and create a layer mask, which will automatically fill based on the selection. Invert the mask (click the mask to activate it and press Command+I / Ctrl+I).
10. Blur the mask. Use the same settings as used for the blur as with the previous mask.
11. Make a Levels correction to the mask.
12. Turn on the view for Layer #4, and load the luminosity as a selection.
13. Be sure Layer #4 is active, and create a layer mask, which will automatically fill based on the selection.
14. Blur the mask.
15. Make a Levels correction to the mask.
16. Turn on the view for Layer #5, and load the luminosity as a selection again.
17. Be sure Layer #5 is active, and create a layer mask.
18. Blur the mask.
19. Make a Levels correction to the mask. At this point your layers should look like those in Figure 7.15.



Normal
Opacity: 100%
Fill: 100%

FIG 7.15 Dark layers target change to the highlights and light layers target change to the shadows

At this point you should try the following corrections:

Additional Adjustments

- Make a Levels correction for the image using an Adjustment layer.
- Make a Color Balance correction for the image using an Adjustment layer.
- Make a Snapshot layer to collect the changes. Blur the layer. Invert the layer. Set the layer to 50%. Set the layer mode to Overlay.
- Make a Hue/Saturation adjustment.
- Make a snapshot. Apply the Find Edges filter. Blur half to a quarter the radius you were using for blur to this point for other effects. Set the layer to Overlay and 50% opacity.
- Separate the color. Set the Color layer to Overlay.

Using the Masks Palette for Mask Adjustments

The Masks palette was new as of Photoshop CS4. The palette lets you make adjustments to masks that are non-destructive, which is a bonus in layered, non-destructive editing. That is, instead of applying a blur directly to the mask content as I often do in examples, you can apply virtual blur using the Feather option. The great benefit of the Masks palette is that it will store information on mask transparency and blurring separate from that of layers.

In this example image you would be able to preview different amounts of feathering and blur for each channel without having to undo–redo masks – and compare with Histories – or via other more complicated methods. Just make the change to the feathering and see the result in real time; then switch to another mask. Feathering will be approximately the same range as the radius in a blur. Other adjustments implemented via the Mask Edge and Color Range dialogs (opened via buttons at the lower portion of the Masks palette) open many doors for experimentation and merging your layered content.

The result of the HDR composite allows me to show details in the highlights and shadows that might otherwise be lost. The result is different than what can be achieved with any one of the single exposures. Though it is more involved, the results of manual assembly also leave you with more control over the result. In the end, you still have to use layer processing techniques to get the best results and composite image from the HDR source images.

Summary

This chapter lacked some specifics in the step-by-step directions at points, quite by design. We covered some of the basic concepts of composite in the form of collage, HDR, and panorama as a way to think beyond the boundaries of the confines of single images as an endpoint to your image creations. The techniques you will need to accomplish the merging and creation of these

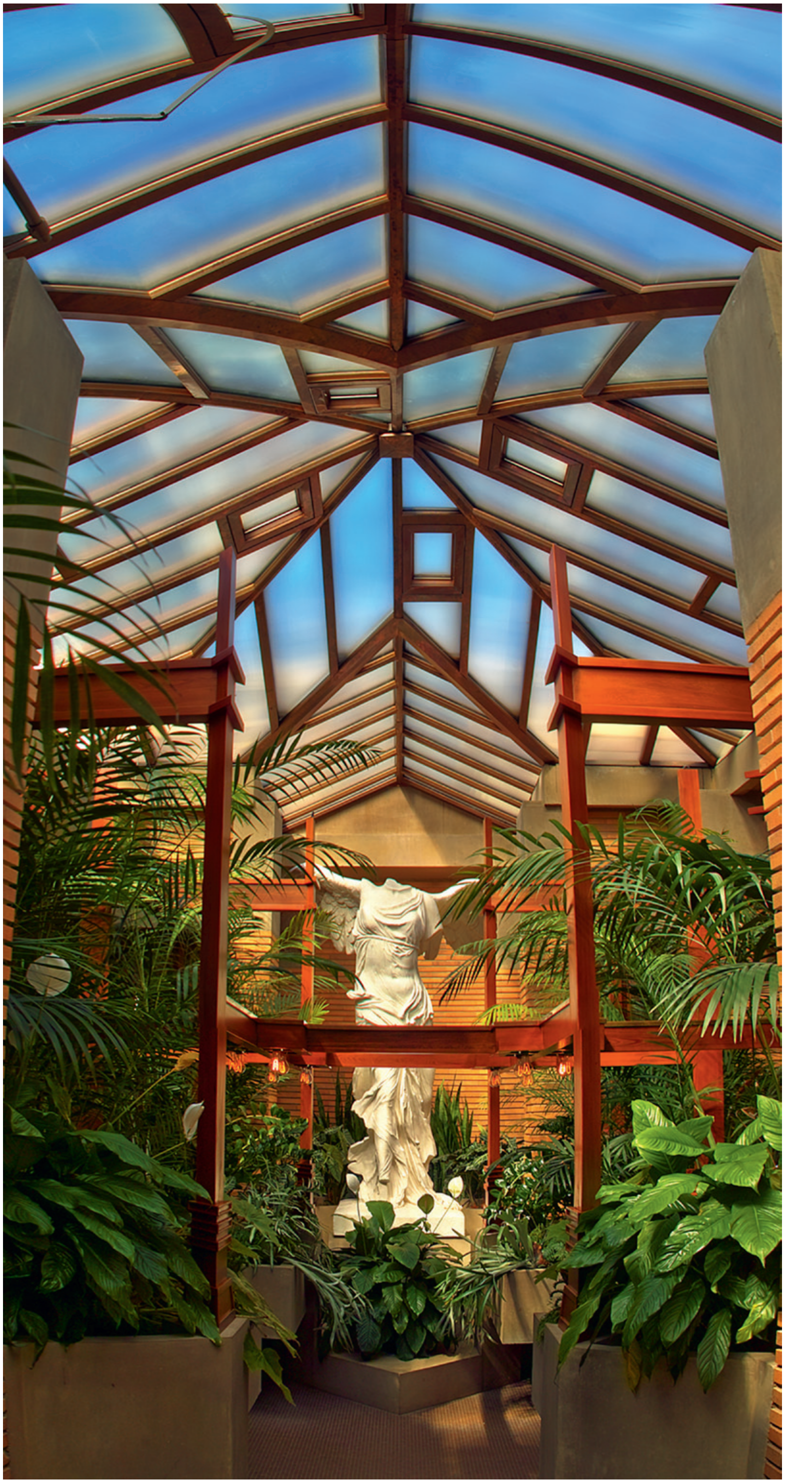


FIG 7.16 The image from the HDR example was taken with a second shot in a series, also exposed in multiple frames with HDR in mind. The two converted HDR images are combined here for a "short" two-frame vertical panorama that gives a better idea of the context of the statue

image results were covered earlier in the book. You have been supplied with the images you need and the outline of what to do, and the intent was to leave more of the details in your hands.

If you get stuck, samples in the downloads showing my completed images will hold clues to the answers you are looking for. Trying to complete the collage and composites is an opportunity to explore techniques discussed throughout the book before you have to go at it more completely on your own with your own images.

The core of this chapter lies in taking a broader view of images, in depth, breadth, and possibility. Objects and images can be combined not just within their own spatial area, but with other images, to expand the borders of what is possible well beyond the scope of the viewfinder and the ability to capture digital information in a single frame. Going even a step beyond that, panoramas can be combined with HDR to create larger images with greater potential color depth (see Figure 7.16).

I hope that now that you have seen what layers have to offer and how they can enable you to do things with images that would otherwise be far more difficult without layers, you have a map for your future of working with images in Photoshop and expanding on what you can do with your images.

I like to think that the end of a book is always just the beginning. As you have time to work with Layers, using this book as a starting place and reference, you should grow well beyond what we've looked at to expand your horizons. As you continue to explore Photoshop Layers, please visit the book's website (http://www.photoshopcs.com) and visit the Layer forums online to ask questions, get answers about layers and other Photoshop issues, and chat with other people who are interested in Photoshop, images, photography, and layers. This author is bound to be there fairly often, and I look forward to seeing you there.

Appendix 1
Quick Reference

This Appendix attempts to collect useful information about layers so readers have it at a glance. Tables and other content may appear in other areas of the book, but here provide a means of quick reference without you having to surf the pages to find what you are looking for.

Editing Outlines

The essential lists for what to do during image editing appear here. There is a lot more detail and discussion on these points in Chapter 1.

The Image Editing Outline

1. Open the image
2. Evaluate the image
3. Make general corrections
4. Make selective correction
5. Perform heroics
6. Apply finishing enhancements
7. Save the image
8. Purpose the image.

Image Evaluation List

1. Alignment/Crop/Horizon Check
2. General Color/Tone Correction
3. Damage/Dust/Debris/Detritus
4. Composition Changes/Imaging Heroics
5. Image Enhancements.

Editing and Correction Order

1. General Corrections
2. Selective Corrections
3. Composition Changes/Imaging Heroics
4. Image Enhancements.

Suggestions for Saving Routines

1. Have only one working file for every image to avoid confusion with multiple files.
2. Save multiple versions of any image in your single working file as layers and layer groups so all the versions for any image are in one place.
3. Save images as PSD files to retain all your changes and versions. JPEG is NOT a good option for storage and archive.
4. Maintain a system for saving and organizing images considering storage location(s), keywords, and image management software options, so that images do not get misplaced and are easy to find.
5. Back up all important images as soon as possible to avoid losing work to drive failure and other circumstances beyond your control.

Steps for Purposing

1. Open the PSD version of the file.
2. Make temporary modifications to the file as necessary. This may include changing color mode, converting to other color spaces, simplifying the layers and vector content, simplifying channels, etc. Adjustments should be made in consideration of the final use and file type only.
3. Save a temporary version of the file by a similar name. Adding something to the file name to indicate the use is suggested as well as dating (e.g., Myimage-SkyMag-6.6.12.pdf – which indicates the image name, designates the use for Sky magazine, dates the image for June of 2012, and indicates that it is a PDF).
4. Close the original without saving.
5. Allocate the temporary file to the purpose. For example, you may need to send it via email, FTP, copy through a network, burn to a disk or copy to other media for transport. Apply the file as appropriate to the use.
6. Delete the temporary version of the file.

Layers in Review

To maximize the benefit of layers, you need to know what they do and where they are, but also to know the logic behind using them for corrections. This section outlines the basics.

The Logic of Layers

- Create a Layer for Every Change
- Focus Application of Change by Controlling Active Layers
- Selectively Hide and Reveal layer Content as Convenient
- Organize Layers to Keep Your Sanity Claus
- Merge Layers for Image Efficiency
- Use Smart Objects for Productivity and Consistency
- Use Layer Comps for Preview.

Isolating Change with Layers

Adding Layer Content	Content in new layers affects (by mode) what is below in the stack.
Layer Opacity	The opacity of layers adjusts the intensity of how a layer affects content below.
Layer Mode	This will allow you to vary the means by which an upper layer combines with layers below, effectively masking how layer changes are applied.
Selection	Selection masks changes so that the selection defines the active area of active layers. Changes can be applied only within the selection.
Layer Masks	Layer masks hide and reveal portions of the layer they are associated with. Black hides, white reveals, and gray hides as a percentage gray or as a semitransparent mask. Channels store layer masks and selections, and can become selections and masks themselves.
Adjustment Layer Settings	Settings on the Adjustments palette for various types of Adjustment layers allow users to target effects based on such things as color or tonal range.
Layer Clipping	Clipping groups mask the content of a group based on the solidity of the bottom layer in the group.
Layer Styles	Blend If (conditional blending), Knockouts, channel targeting
Smart Objects	Allows users to place content in one image yet keep it in a separate file where that layer content can be edited and updated.

The Layers Palette

The Layers palette is the command center for controlling layer views and how layers combine. Open the Layers palette by choosing Layers from the Window menu (Window > Layers).

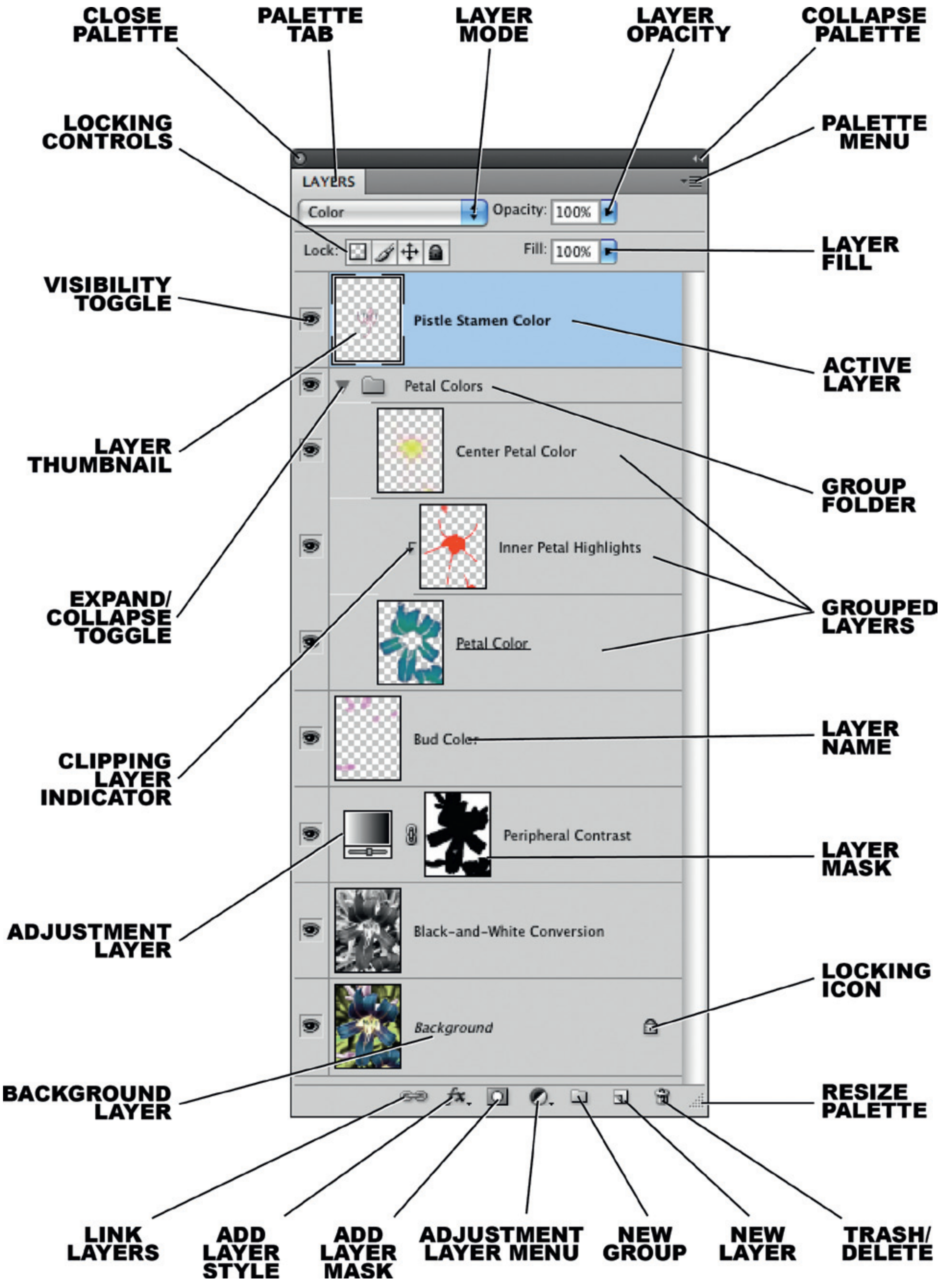

CLOSE PALETTE
PALETTE TAB
LAYER MODE
LAYER OPACITY
COLLAPSE PALETTE
LOCKING CONTROLS
PALETTE MENU
LAYERS
Color
Opacity: 100%
Lock:
Fill: 100%
LAYER FILL
VISIBILITY TOGGLE
Pistle Stamen Color
ACTIVE LAYER
Petal Colors
LAYER THUMBNAIL
Center Petal Color
GROUP FOLDER
Inner Petal Highlights
EXPAND/ COLLAPSE TOGGLE
GROUPED LAYERS
Petal Color
Bud Color
LAYER NAME
CLIPPING LAYER INDICATOR
Peripheral Contrast
LAYER MASK
ADJUSTMENT LAYER
Black-and-White Conversion
LOCKING ICON
Background
BACKGROUND LAYER
RESIZE PALETTE
LINK LAYERS
ADD LAYER STYLE
ADD LAYER MASK
ADJUSTMENT LAYER MENU
NEW GROUP
NEW LAYER
TRASH/ DELETE

FIGURE AP1.1 The Layers palette, annotated

Layers Palette Features Graphic Icon Reference

Simple buttons on the palette allow you to access many powerful features at a click.

Icon/Button	**Command/Function**	**Description**
◂◂	Minimize Palette	Toggles the palette to expanded/collapsed views. Behavior varies depending on whether the palette is docked or floating.
●	Close Palette	Available on floating palettes only. Closes the palette.
Normal ⇕	Blending Mode	Blending Mode allows selection of modes to control how layers interact with layers below.
Opacity: 100% ▸	Layer Opacity	Opacity controls the transparency of the entire current layer from 0 to 100%.
Fill: 100% ▸	Layer Fill	Similar to Opacity. Fill affects only the content of the layer; layer styles are not affected.
▾☰	Layers Palette menu	Accesses the context-sensitive Layers palette menu. Items available on the menu vary depending on the currently active layer(s).
▨	Lock Transparent Pixels	Locks layer pixel transparency. Restricts change to color/tone only.
🖌	Lock Image Pixels	Locks layer pixel transparency and color/tone.
✥	Lock Layer Position	Locks layer position. Transparency and color/tone can still be changed or adjusted.
🔒	Lock All	Locks transparency, color/tone, and position of layer content.
👁	Layer Visibility Toggle	Shows/hides the content of the associated layer.
🔗	Link Layers	Allows layer linking. Linking allows movement or transformation of the content of more than one layer at a time. Will also maintain alignment between linked layers.
fx▾	Add Layer Style	Allows users to add a layer style to the active layer by selection from the Layer Style menu.

Icon/Button	Command/Function	Description
◙	Add a Mask	Adds a layer mask to the active layer if there is not one. If there is already a layer mask, it adds a vector mask. If there are both or the layer is a Background layer, this is disabled.
◐	New Adjustment Layer	Adds a new Adjustment layer to the image based on selection from the menu that appears.
📁	Create a New Group	Adds a new empty layer group above the active layer if clicked. If layers are dragged to the button, a new group is created with those layers in it.
🗋	Create a New Layer	Adds a new blank layer above the currently active layer when clicked. If layers are dragged to the button the layers are duplicated.
🗑	Delete Layer	Deletes active/selected layer(s) when clicked. Layers dragged to the button are deleted.
⋰	Resize Palette	Click and drag on this to change the size of the Layers palette.

Layer Types

Layer Type	Description	Comments
Background layer	Specialized content layer that is the dedicated background for the image. The bottom-most layer of an image; the result of a flattened image. These layers are always locked, have no mode, and are always 100% opaque.	Background layers have little to do with the photographic notion of "background" in that the content is not necessarily just image background information and shouldn't be assumed to isolate this image area. Most images start with just a Background layer. Can be converted to a new layer by double-clicking.
New Layer	Layer added to the layer stack that is not a Background layer.	New layers can be blank, can contain content, and can be other content or adjustment layers, or can be converted to these other layer types.

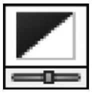
(*Continued*)

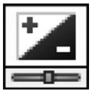
Layer Type	Description	Comments
Adjustment layer	A layer that applies a specific function to underlying layers in the layer stack. These are specific functions created using the Layer > New Adjustment Layer submenu or by clicking on a Create button for a specific Adjustment layer type in the Adjustments palette. Adjustment layers can be masked, applied using layer modes, and varied in opacity/fill.	Adjustment layers have no content of their own. They represent calculations and are very useful for applying nondestructive adjustments in the form of levels corrections, color balance, hue/saturation, etc., all of which can be adjusted or undone at any time during editing. All Adjustment layers can be masked as well to provide control over how the adjustment is employed in a given image. They cannot be converted to a Background layer.
Fill layer	Layers that apply color fills, gradients, or patterns. These are created using the Layer > New Fill Layer submenu. Fill layers can be masked, used with applied blending modes, and varied in opacity/fill.	Fill layers are closely related to Adjustment layers and Type layers. They have content (color, gradient, pattern), which makes them distinct from Adjustment layers, yet the content can be edited only through a dialog, which makes them much like Adjustment layers. Because they contain content, they can be converted to a Background layer.
Clipping Layers, Clipping Group, Clipping Mask	Clipping layers are made up from at least two layers that have been grouped using the Create Clipping Mask feature. The bottom-most layer in a clipping group acts as a host for the entire clipping group. The solidity of the base layer controls what is revealed in the result of layers that are clipped (added to the clipping group). These work like cookie cutters for which the bottom layer is the mold.	One of the least-well-defined common layer functions. I find it the most useful quick-targeting feature in Photoshop Layers functionality. Allows users to mask instantly any layer with the solidity of another. Once you start thinking in layers, this is an oft-used tool.
Layer Groups	A folder in the layers structure used to group layers (or other groups) as an organizational tool. Grouping allows all layers in the group to be treated like a unit so that they can easily be moved, viewed/hidden, or masked as one.	Originally introduced as Layer Sets with Photoshop 7, the name was changed to Groups with Photoshop CS. This is the only layer in the Layers palette that may have no content or effect whatever on the image.
Type layer	Specialized content layer that contains editable type. Type layers are automatically added by application of the Type tool by clicking on the image or clicking and dragging (to form a type box). Type layers can be masked, used with applied blending modes, and varied in opacity/fill.	The editable type in a Type layer is what sets it apart. Once a Type layer is rasterized (turned into a bitmap/pixels) it becomes like any other content layer – it just happens to be in the shape of type, type that isn't editable.

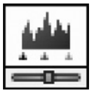
(*Continued*)

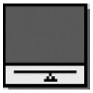
Layer Type	Description	Comments
Smart Object	Smart Objects group layers together and save the object (one or more layers) in another image (PSB file type) that is referenced by the current image. This can reduce image file size, but may be more useful for updating several files at once.	An interesting use of Smart Object is to have consistent graphic elements in several images, such as doing portraits for a Little League team where the look of each card is the same. You can create the graphic card component, then save it and import it to multiple images.
Video layer	Allows incorporation of video clips into images. Works much like a Smart Object referencing an external video file.	Added in Photoshop CS3. Not terribly useful for image editing.

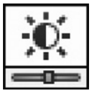
Layer Icons

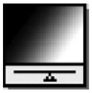

Black and white

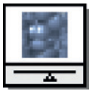

Exposure

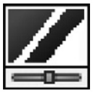

Levels

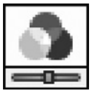

Solid color

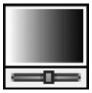

Brightness/contrast


Gradient


Pattern


Threshold


Channel mixer


Gradient map

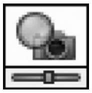
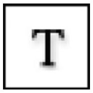
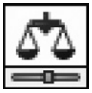
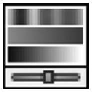
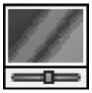


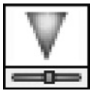
Photo filter

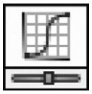

Type

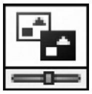

Color balance

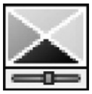

Hue/saturation


Posterize


Vibrance


Curves


Invert

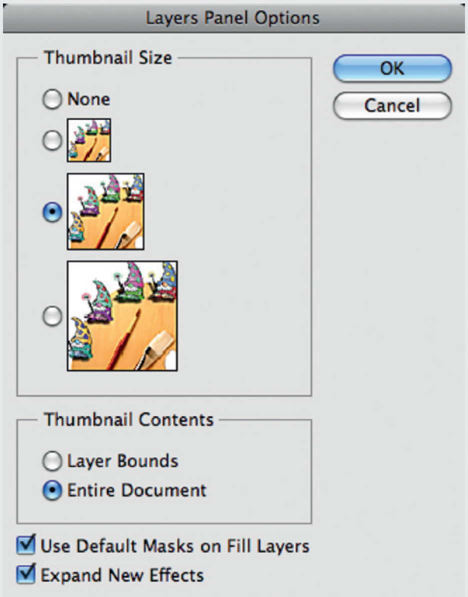

Selective color

Layer Palette Viewing Preferences

Layer viewing preferences determine how you see thumbnails in the Layers palette.

Try It Now: Set Layer Palette Viewing Preference

1. Open any image in Photoshop.
2. If your Layers palette is not already in view, choose Layers from the Window menu.
3. Click on the Layers Palette menu button at the upper right of the Layers palette.
4. Choose Panel Options from the menu that appears. The Layers Panel Options dialog will appear (see Figure AP1.2).


Layers Panel Options

Thumbnail Size

○ None

○

●

○

Thumbnail Contents

○ Layer Bounds

● Entire Document

☑ Use Default Masks on Fill Layers

☑ Expand New Effects

FIGURE AP1.2

5. Choose your preference for the size of the thumbnail that you prefer to view. Either the second or third option from the top is recommended for thumbnail viewing. This will allow you to get an idea of layer content without taking up too much of your screen. You can change this option at any time; it applies to the palette, and not to actual layer content.

Create New Layers

Function	How To
Duplicate layer	Drag any layer (including the Background layer) to the Create a New Layer button. This creates a duplicate layer and adds the word "copy" to the right of the new layer name.
	Choose the Duplicate Layer command from the Layers Palette menu or Layer menu. Creates a duplicate and adds the word "copy" to the new layer name.
	From the top menus choose Layer>New>Layer Via Copy or press Command+J/Ctrl+J (Mac/PC) with no selection active. Creates a duplicate and adds the word "copy" to the new layer name.
	With two images open, click on a layer in the Layers palette and drag to the currently inactive image. Hold the Shift key on the keyboard while dragging to center the image in the image you are dragging it to. Creates a new layer in the second document with the same name as the layer in the originating document.
New Blank layer	Click the Create a New Layer button. Creates a new layer with the default name Layer # (where the numbers are sequential, starting with 1).
	Choose the Layer>New>Layer command from the Program menu or New Layer from the Layers Palette menu. Creates a new layer with the default name Layer # (where the numbers are sequential, starting with 1).
Layer via copy	Create a selection and then copy (Command+C/Ctrl+C) and paste (Command+V/Ctrl+V). Creates a duplicate of the selected area in a new layer with the default name Layer # (where the numbers are sequential, starting with 1).
	Choose Layer>New>Layer Via Copy or press Command+J/Ctrl+J with a selection active. Duplicates selected area to a new layer with the default name Layer # (where the numbers are sequential, starting with 1).
	Press Command+Option+Shift+E/Ctrl+Alt+Shift+E. Merges visible layer content to a new layer with the default name Layer # (where the numbers are sequential, starting with 1). The new layer appears above the currently active layer (if a layer is active) or at the top of the layer stack.
Layer from Background	Double-click the Background layer in the Layers palette. Converts the Background layer to a nonbackground layer. The new layer will be created from the Background with a default name of Layer 0.
	Choose Layer>New>Layer from Background. Converts the Background layer to a nonbackground layer. The new layer will be created from the Background with a default name of Layer 0.
New Background layer	Choose Layer>New>Background From Layer. This changes the active layer to the Background layer. The command is available only if a Background layer does not already exist in the image.

(*Continued*)

Function	How To
Adjustment layer	Choose one of the New Adjustment Layer submenu options from the Layer menu (including Levels, Hue/Saturation, Invert, etc.). A New Layer dialog will open, allowing you to change Name, Clipping, Color, Mode, and Opacity. Once you accept the New Layer option by clicking OK, the Adjustment layer options will appear in the Adjustments dialog.
	Choose any of the Adjustment layer options from the Create New Adjustment or Fill Layer menu off the Layers palette. The Adjustment layer options will appear in the Adjustments dialog.
	Click any of the Adjustment layer buttons on the Adjustments palette. The Adjustment layer options will appear in the Adjustments dialog.
Fill layer	Choose any of the New Fill Layer submenu options from the Layer menu (Solid Color, Gradient, Pattern). A New Layer dialog will open, allowing you to change Name, Clipping, Color, Mode, and Opacity. Once you accept the New Layer option by clicking OK, a function dialog will appear as appropriate.
	Choose any of the Fill layer options from the Create New Adjustment or Fill Layer menu off the Layers palette. The Adjustment layer options will appear in the Adjustments dialog.
	Choose the Shape tool; then be sure the Shape Layers option is selected on the Option bar (use mouse tool tip to find the button for the option). Click and drag on the image.
Type layer	Choose the Type tool and click on the image. This creates a new Type layer. Use the keyboard to enter text once the cursor appears. The Type tool can be used in combination with vectors to make type on a path and with shapes to make text in a shape.
	Choose the Type tool and click and drag on the image. This creates a new Type layer and creates a text box that will contain the text that is entered. Use the keyboard to enter text once the cursor appears.

Layer Modes

Mode	Description	Uses
Normal	Normal mode is the default layer mode: a plain overlay of content in the layer. The result takes on the color/tone of the pixels in the layer.	Used when you want to see what is in the layer you have set to the mode with no additional calculation. This is the basic, straightforward content representation that you will use for cloning, copy/paste, and compositing.

(*Continued*)

Mode	Description	Uses
Dissolve	Dissolve mode reveals the color/tone of the pixels in either the upper layer or the lower layer. Determined on a pixel-by-pixel basis according to the opacity of the layer. The greater the opacity of the layer in Dissolve mode, the more pixels display from the layer. At 100% Opacity, 100% of the pixels in the upper layer display; at 50% Opacity, 50% of the pixels in the upper layer display. Pixels are hidden in a randomized or dithered effect.	This mode may be best for special effects such as animated fades or manual dithering.
Darken	Shows the darkest color value in each channel for each pixel, comparing the content of the layer on which the mode is assigned and that of the layer(s) below. No portion of the image gets lighter. For example, in an RGB image, if the pixel in the layer set to Darken is RGB: 255, 170, 33, and the lower layer pixel is RGB: 45, 165, 44, the result is the lower (darker) of any of these numbers for each channel, or RGB: 45, 165, 33. Though the result will never get darker than existing values in individual channels, the calculation can form a color that is darker than either the current layer or the layer(s) below.	Used as a means of darkening content when the applied layer is darkening guideline rather than a multiplier (Multiply) or absolute limit (Darker Color).
Multiply	Darkens the result by adding the darkness of the multiplying layer to the visible content of layers below. Any tone darker than pure white (RGB: 255, 255, 255) in the multiplying layer darkens the appearance of the calculated result. No portion of the image can get lighter.	Used to darken portions of your image as a multiplier rather than a guideline (Darken) or absolute limit (Darker Color). Techniques like burning, shading and shadows, and beveling will use multiply mode. Also useful in color filtering.
Color Burn	Burns in (darkens) the color of the lower layer based on the content of the layer set to Color Burn, darkening the result. Tends to burn in or enrich color density. No portion of the image gets lighter. The greater the difference between the applied pixel colors and the content, the greater the percentage of change.	Used for special effects and possibly for color enhancement.
Linear Burn	Similar to Multiply but more extreme and linear in application. All portions of the image get darker in areas where the content of the layer on which the mode is applied is darker than pure white.	Useful in calculations, like layer-based channel mixing.

(*Continued*)

Mode	Description	Uses
Darker Color	Displays the darker of either of two colors in comparing pixels in the layer on which the mode is applied to pixels in layer(s) below. The result is defined from the total value of brightness of all channels in the individual pixels. If the pixel in the layer on which the mode is applied is RGB: 255, 0, 0, and the pixel below is 0, 150, 150, the former (red) will display even though it appears lighter on screen (because the average of the channels is lower/darker).	Used as a means of darkening content when the applied layer is a darkening limit rather than a multiplier (Multiply) or guideline (Darken).
Lighten	The virtual opposite of Darken. Applying the mode results in showing the lightest color value in each channel, comparing the content of the layer on which the mode is applied to the layer(s) below. No portion of the image gets darker. For example, in an RGB image, if the upper layer pixel is RGB: 255, 170, 33, and the lower layer pixel is RGB: 45, 165, 44, the result is the greater of any of these numbers, or RGB: 255, 170, 44, in this case forming a third color.	Used as a means of lightening underlying content when the content is a lightening guideline rather than a multiplier (Screen) or actual limit (Lighter Color).
Screen	Brightens the result by adding the brightness of the Screen layer to underlying content. Any tone lighter than black in the Screen mode layer lightens the appearance of the content below. No portion of the image can get darker.	Often used with brightening effects such as dodging, glows and bevel highlights. Useful in simulating light effects like RGB channel composites.
Color Dodge	Lightens (dodges) the layers below based on the content of the layer where the mode is applied, lightening the result. Tends to desaturate and wash out color. No portion of the image gets darker. The greater the difference between the applied pixel colors and the content, the greater the percentage of change.	Used for special effects and possibly color enhancement.
Linear Dodge	Similar to Screen but more extreme and linear in application. All portions of the image get lighter where the content of the layer on which the mode is applied is brighter than pure black.	Useful in calculations, like layer-based channel mixing.
Lighter Color	Displays the lighter of either of two colors in comparing pixels in the layer on which the mode is applied to pixels in the layer(s) below. The result is defined from the total value of brightness of all channels in the individual pixels; if the pixel in the layer on which the mode is applied is RGB: 155, 155, 155, and the pixel below is 250, 150, 50, the former (gray) will display (the average of the channels is higher).	Used as a means of lightening content when the applied layer is a lightening limit rather than a multiplier (Screen) or guideline (Lighten).

(*Continued*)

Mode	Description	Uses
Overlay	Multiplies (darkens) when the overlay layer is dark (darker than 50% gray) and screens (lightens) when the overlay layer on which the mode is applied is light (lighter than 50% gray). Underlying pixel colors at the center of the light and dark range (quartertones at 75 and 25% gray) are affected more than the range extremes (0 and 100% brightness or 50% gray).	Used for contrast and saturation changes. Manual sharpening effects.
Soft Light	Similar to Overlay but a weaker application of the tones in the layer on which the mode is applied.	Useful in some special effects (soft focus) and for intensifying color and contrast when more finesse is needed than Overlay mode.
Hard Light	Multiplies (darkens) when the layer on which the mode is applied is dark (0–49% brightness) and screens (lightens) when the layer on which the mode is applied is light (51–100% brightness). Similar to Soft Light and Overlay but a more linear, stronger application of the tone in the upper layer.	Useful in some special effects and for intensifying color and contrast.
Vivid Light	Similar to Color Burn when the pixel in the layer on which the mode is applied is darker than 50% gray. Similar to Color Dodge when the pixel in the layer on which the mode is applied is lighter than 50% gray.	Special effects?
Linear Light	Similar to Linear Burn when the color in the layer on which the mode is applied is darker than 50% gray. Similar to Linear Dodge when the color in the layer on which the mode is applied is lighter than 50% gray.	Special effects?
Pin Light	Similar to Multiply when the layer on which the mode is applied is darker than 50% gray. Similar to Screen when the layer on which the mode is applied is lighter than 50% gray.	Special effects?
Hard Mix	Adds a limited color palette effect to the Vivid Light effect. It will posterize the result to appear as one of eight colors: white, red, green, blue, cyan, magenta, yellow, or black.	Useful for creating a posterized effect.
Difference	Shows the result of calculating the difference between pixel values in the applied layer and layers below. A large difference yields a bright result; a small difference yields a dark result (no difference yields black).	Useful in image evaluations to show/measure differences between corrections (stack two layers for comparison and set the upper to Difference – everything that is not pure black is different) and in some special effects.

(*Continued*)

Mode	Description	Uses
Exclusion	Uses the darkness of the layer on which the mode is applied to mask the Difference effect (see Difference above). If the layer on which the mode is applied is dark, there is little change as a result; if the upper layer pixel is black, there is no change. The lighter the pixel in the upper layer, the more intense the potential Exclusion effect.	Used for special effects and perhaps masking.
Hue	Overrides the Hue of lower layers based on the content of the layer on which the mode is applied, leaving the Saturation and Luminosity unchanged.	Used for color adjustment like the Hue slider in the Hue/Saturation dialog.
Saturation	Overrides the Saturation of lower layers based on the content of the layer on which the mode is applied, leaving the Hue and Luminosity unchanged.	Used for color adjustment like the Saturation slider in the Hue/Saturation dialog.
Color	Overrides the Hue and Saturation of lower layers based on the content of the color layer, leaving the Luminosity unchanged.	Used for color adjustment and layer-based Luminosity and Color separations.
Luminosity	Overrides the Luminosity/brightness of lower layers based on the content of the luminosity layer, leaving the Saturation and Hue unchanged.	Used for tone adjustment and layer-based Luminosity and Color separations.

Types of Masking

Type	Description
Blocking	Content of a layer higher in the layer stack blocks content below due to opacity and solidity.
Clipping Layers, Clipping Masks, Clipping Group	Allows layer content (opacity and solidity of pixels) to be used as a mask for layers in a group. The base layer in the clipping group is the control.
Layer Masks	Each layer (except a Background) can have 2 masks applied: pixel-based and vector-based. These masks can work in unison. Pixel-based masks determine pixel visibility of a layer based on tone: black hides current layer content, white reveals larger content, gray reveals as a percentage. Vector-based masks use paths (pixel independent shapes) to define masks. Multiple vectors can interact in a single mask.
Knockout	Layer content that drills through to the base of a group, or to the Background. Set in Layer Styles dialog. Used with Fill can define top-down masking.
Blend If	Conditional blending where show/hide can be determined by the content of the current layer or targeted to layers below based on color/tone.
Color/Tone Range	Selectors in some features (Hue/Saturation, Color Balance, Levels, Curves) can target color or tone range.

(*Continued*)

Type	**Description**
Layer Modes	Can mask layers by specifically targeting areas of content for change base on the Mode (see *Layer Modes* for descriptions).
Quick Mask	Allows the user to turn a current selection to a pixel based mask temporarily for editing and quickly back again without defining an alpha channel. Located at the bottom of the Tools palette.
Selection	Isolates the area inside the selection so that only that area can be affected by applied changes. A temporary mask.

Effects Used in Layer Styles

Drop Shadow	Adds a shadow on the outer perimeter of the layer content. Affects the appearance of content only in layers below the layer on which it is applied.
Inner Shadow	Adds a shadow inside the perimeter of the layer content. Affects the appearance of content only in the layer on which it is applied.
Outer Glow	Adds a glow around the content of the layer on which it is applied. Affects the appearance of the content only below the layer on which it is applied.
Inner Glow	Adds a glow inside the content of the layer on which it is applied. Affects the appearance of the content only in the layer on which it is applied.
Bevel and Emboss	Adds highlights and shadows to a layer to affect a raised (Up) or lowered (Down) appearance. Can be used in several modes, including Outer Bevel (applied to the outer perimeter affecting only layers below), Inner Bevel (applied to the inner perimeter affecting only the current layer), Emboss (applied as both Inner and Outer Bevels), Pillow Emboss (applied as Inner Bevel Up and Outer Bevel Down), or Stroke Emboss (applied to Stroke effects only). May affect the layer on which it is applied as well as layers below depending on the settings you choose.
Satin	Applies shading to the inner perimeter of the layer. Supposed to give a satin look. Affects the appearance of content in the layer on which it is applied.
Color	Fills the layer content with a color. Affects the appearance of only the layer on which it is applied.
Gradient	Fills the layer content with a gradient. Affects only the layer on which it is applied.
Pattern Overlay	Fills the layer content with a pattern. Affects only the layer on which it is applied.
Stroke	Strokes the outline of the current layer content using color, a gradient, or a pattern. Strokes can be Outside, Inside, or on Center. Affects the layer on which it is applied, layers below, or both depending on the settings.

Layer Navigation Shortcuts

Purpose	Mac Shortcut	Windows Shortcut
Move a highlighted layer up in the layer stack	Command+]	CTRL+]
Move a highlighted layer down in the layer stack	Command+[	CTRL+[
Move a highlighted layer to the top of the layer stack (or layer group)	Command+Shift+]	CTRL+Shift+]
Move a highlighted layer to the bottom of the layer stack (or layer group)	Command+Shift+[	CTRL+Shift+[
Select the next layer up in the layer stack	Option+]	Alt+]
Select the next layer down in the layer stack	Option+[	Alt+[
Select the next layer up in the layer stack (keeping the current layer(s) selected)	Option+Shift+]	Alt+Shift+]
Select the next layer down in the layer stack (keeping the current layer(s) selected)	Option+Shift+[	Alt+Shift+[

Comparing Layer Changes (Before and After)

- Toggle off the views for all layers other than the Background layer. To do this, you can click and drag the cursor over the Layer Visibility Indicators in the Layers palette.
- Put the layers you want to toggle off in a group and toggle the view for the group. This is useful when there are a lot of layers to toggle at once and click-and-drag is too clumsy.
- Use the History palette to toggle between the original and the current state of the image by clicking the appropriate states in the History to undo/redo changes. Click the default Snapshot at the top of the palette to return to the original state and the last item in the History to return to the current state. It may be best to take a History Snapshot before juggling the History states.
- Duplicate the Background layer and drag the duplicate to the top of the layer stack. Name it Before, and toggle the view as needed.
- Use Layer Comps to define versions of the image. This is handy if the before/after you want to compare is not the opening state of the image, or if you have several versions to compare.

Actions Included with the Book

Tool utilities created by Richard Lynch and provided with the book downloads to simplify complex repeatable processes.

Blend If Layers Book

Actions that set positions of Blend If sliders for a layer without having to open the Layer Styles dialog and move the sliders manually.

Action	Description
Isolate Shadows	Sets the split This Layer white slider to 0 and 255. The full range of shadows will be affected diminishing to 0% at white.
Isolate Shadows to Midtone	Sets the split This Layer white slider to 0 and 128. Half the range of shadows will be affected diminishing to 0% at midtone.
Isolate Highlights	Sets the split This Layer black slider to 0 and 255. The full range of highlights will be affected diminishing to 0% at black.
Isolate Highlights to Midtone	Sets the split This Layer black slider to 128 and 255. Half the range of highlights will be affected diminishing to 0% at midtone.
Isolate Midtones	Sets the split This Layer black slider to 0 and 128 and the white slider to 128 and 255. Targets the midrange diminishing to 0% at white and black.
Isolate Highlights and Shadows	Sets the split This Layer black slider to 128 and 255 and the white slider to 0 and 128. Targets the midrange diminishing to 0% at midtone.
Target Underlying Highlights	Sets the split Underlying Layer black slider to 0 and 255. The full range of highlights will be affected diminishing to 0% at black.
Target Underlying Highlights to Midtone	Sets the split Underlying Layer black slider to 128 and 255. Half the range of Highlights will be affected diminishing to 0% at midtone.
Target Underlying Shadows	Sets the split Underlying Layer white slider to 0 and 255. The full range of shadows will be affected diminishing to 0% at white.
Target Underlying Shadows to Midtone	Sets the split Underlying Layer white slider to 0 and 128. Half the range of shadows will be affected diminishing to 0% at midtone.
Target Underlying Midtones	Sets the split Underlying Layer black slider to 0 and 128 and sets the Underlying Layer white slider to 128 and 255. Targets the midtones diminishing to 0% at white and black.
Target Underlying Highlights and Shadows	Sets the split Underlying Layer black slider to 128 and 255 and sets the Underlying Layer white slider to 0 and 128. Targets the highlights and shadows diminishing to 0% at midtone.
Reset	sets the Underlying Layer to unsplit positions with the black slider at 0 and the white slider at 255.

Separations

Actions that create separation based on the tone and color of your image.

Action	Description
Complete RGB Separation	Duplicates the current image and makes a complete RGB separation into layers.
Blue Component	Duplicates the current image and separates out a standalone Blue Component layer.
Green Component	Duplicates the current image and separates out a standalone Green Component layer.
Red Component	Duplicates the current image and separates out a standalone Red Component layer.
Luminosity and Color	Duplicates the current image and separates out Color and Luminosity layers.
RGBL Components	Duplicates the current image and separates out Red, Green, Blue, and Luminosity layers.
Richard's Custom Black-and-White	Duplicates the current image and creates a black-and-white result that works well with many images.
Simple Channel Mixer	Duplicates the current image and sets up a layer-based channel mixing scenario.
Target Red	Targets the current layer to the Red channel; unchecks boxes in the Advanced Blending for Green and Blue.
Target Green	Targets the current layer to the Green channel; unchecks boxes in the Advanced Blending for Red and Blue.
Target Blue	Targets the current layer to the Blue channel; unchecks boxes in the Advanced Blending for Red and Green.
Target RGB	Resets all Advanced Blending channel checkboxes to checked.

Layer Book Utilities

Actions created for the book to simplify commonly used steps.

Action	Description
Fill Gray 50%	Creates a 50% gray filled layer that is used repeatedly for masking color and luminosity throughout the book.

Layer_Cropping_Tools

These actions create a layer at the top of the layer stack that can be used to define a crop for an image with a basic preview without actually cropping the image.

Action	Description
Cropping Layer	Create the Cropping Layer with instructions.
Cropping Layer (no instruction)	Same as the Cropping Layer action sans instructions.

Layer Effects

Actions that create a layer scenario that mimics Photoshop's layer styles, but uses actual layers in a manually adjustable result.

Action	Description
Drop Shadow/Glow	Adds a drop shadow or outer glow to the content of a layer
Inner Shadow/Glow	Adds an inner shadow or inner glow to the content of a layer
Inner Bevel	Creates an inner bevel for the content of a layer
Outer Bevel	Creates an outer bevel for the content of a layer
Change Effect Color	Allows users to define a color change for the effects in this set.

Loading Actions

To load an actions file, you need the actions file (.atn) saved somewhere accessible to your computer via the file system. Save the .atn file somewhere that you can locate it easily. The Presets>Actions folder inside the Photoshop program folder is recommended.

Try it Now: Loading Actions

1. Save the actions file on your computer (you can load from a CD/DVD or external drive or network as well).
2. Open the Actions palette in Photoshop (Window>Actions, or press Option+F9/Alt+F9)
3. Choose Load Actions from the Actions palette menu (the menu button is located in the upper right of the palette).
4. Locate the actions file by browsing the file system.
5. Choose the .atn file you want to load by clicking it.
6. Click the Load button. The actions will populate in the Actions palette.

Miscellaneous

These references fall outside of the general subject of Layers, but may be handy to have around.

Photoshop Navigation Features

A general overview of Photoshop navigation.

Navigation Feature	Description
Menus	Listings of functions and features by name that can be selected with a click. These menus may be on the main program menu bar, but they may also be attached to palettes or other menus as submenus, or can be accessed by Ctrl+click Mac or right-click PC on specific objects or program interface areas.
Palettes or Panels	Floating windows that may have buttons, menus or other graphical interface options that go beyond just a listing of features by name (as with menus). Accessed via the Window menu. Also referred to as panels.

(*Continued*)

Navigation Feature	**Description**
Dialogs	A program window that appears in the interface which the user needs to address before continuing with editing tasks. These can be as simple as warnings and confirmations, more complex components like the Save for Web dialog, or multiple screen series like file type choices during a save.

Special Type Characters

To get the copyright symbol, press Option + G on a Mac; on Windows, hold down the Alt key and press the following keys on the number pad in order: 0, 1, 6, 9. Then release the Alt key. If this does not work immediately or if you have a keyboard with no number pad, turn on the Num Lock feature from the keyboard (press the Num Lock or similar button). For more information about Num Lock on PCs, consult your computer's user manual. Laptop users may need to consult their owner's manual for operation of special keys.

Character	**MacOS**	**Windows**	**Description**
™	option + 2	Alt + 0153	trademark sign
–	option + hyphen	Alt + 0150	en dash
—	shift + option + hyphen	Alt + 0151	em dash
¡	option + 1	Alt + 0161	inverted exclamation
¢	option + 4	Alt + 0162	cent sign
£	option + 3	Alt + 0163	pound sterling
¤	&nbsp;	Alt + 0164	euro sign
¥	option + y	Alt + 0165	yen sign
§	option + 6	Alt + 0167	section sign
¨	shift + option + u	Alt + 0168	umlaut
©	option + g	Alt + 0169	copyright
ª	option + 9	Alt + 0170	feminine ordinal
«	option + \	Alt + 0171	left angle quote
¬	option + l	Alt + 0172	not sign
®	option + r	Alt + 0174	registered trademark
¯	&nbsp;	Alt + 0175	macron accent
°	shift + option + 8	Alt + 0176	degree sign
±	shift + option + =	Alt + 0177	plus or minus
´	shift + option + e	Alt + 0180	acute accent
µ	option + m	Alt + 0181	micron sign

(*Continued*)

Character	**MacOS**	**Windows**	**Description**
¶	option + 7	Alt + 0182	paragraph sign
·	shift + option + 9	Alt + 0183	bullet dot
¸	shift + option + z	Alt + 0184	cedilla
º	option + 0	Alt + 0186	masculine ordinal
»	shift + option + \	Alt + 0187	right angle quote
¿	shift + option + ?	Alt + 0191	inverted question mark
À	option + `, A	Alt + 0192	uppercase A, grave accent
Á	option + e, A	Alt + 0193	uppercase A, acute accent
Â	option + i, A	Alt + 0194	uppercase A, circumflex accent
Ã	option + n, A	Alt + 0195	uppercase A, tilde
Ä	option + u, A	Alt + 0196	uppercase A, umlaut
Å	shift + option + a	Alt + 0197	uppercase A, ring
Æ	shift + option + '	Alt + 0198	uppercase AE
Ç	shift + option + c	Alt + 0199	uppercase C, cedilla
È	option + `, E	Alt + 0200	uppercase E, grave accent
É	option + e, E	Alt + 0201	uppercase E, acute accent
Ê	option + i, E	Alt + 0202	uppercase E, circumflex accent
Ë	option + u, E	Alt + 0203	uppercase E, umlaut
Ì	option + `, I	Alt + 0204	uppercase I, grave accent
Í	option + e, I	Alt + 0205	uppercase I, acute accent
Î	option + i, I	Alt + 0206	uppercase I, circumflex accent
Ï	option + u, I	Alt + 0207	uppercase I, umlaut
Ñ	option + n, N	Alt + 0209	uppercase N, tilde
Ò	option + `, O	Alt + 0210	uppercase O, grave accent
Ó	option + e, O	Alt + 0211	uppercase O, acute accent
Ô	option + i, O	Alt + 0212	uppercase O, circumflex accent
Õ	option + n, O	Alt + 0213	uppercase O, tilde
Ö	option + u, O	Alt + 0214	uppercase O, umlaut
Ø	shift + option + o	Alt + 0216	uppercase O, slash

(*Continued*)

Character	MacOS	Windows	Description
Ù	option + `, U	Alt + 0217	uppercase U, grave accent
Ú	option + e, U	Alt + 0218	uppercase U, acute accent
Û	option + i, U	Alt + 0219	uppercase U, circumflex accent
Ü	option + u, U	Alt + 0220	uppercase U, umlaut
ß	option + s	Alt + 0223	lowercase sharps, German
à	option + `, a	Alt + 0224	lowercase a, grave accent
á	option + e, a	Alt + 0225	lowercase a, acute accent
â	option + i, a	Alt + 0226	lowercase a, circumflex accent
ã	option + n, a	Alt + 0227	lowercase a, tilde
ä	option + u, a	Alt + 0228	lowercase a, umlaut
å	option + a	Alt + 0229	lowercase a, ring
æ	option + '	Alt + 0230	lowercase ae
ç	option + c	Alt + 0231	lowercase c, cedilla
è	option + `, e	Alt + 0232	lowercase e, grave accent
é	option + e, e	Alt + 0233	lowercase e, acute accent
ê	option + i, e	Alt + 0234	lowercase e, circumflex accent
ë	option + u, e	Alt + 0235	lowercase e, umlaut
ì	option + `, i	Alt + 0236	lowercase i, grave accent
í	option + e, i	Alt + 0237	lowercase i, acute accent
î	option + i, i	Alt + 0238	lowercase i, circumflex accent
ï	option + u, i	Alt + 0239	lowercase i, umlaut
ñ	option + n, n	Alt + 0241	lowercase n, tilde
ò	option + `, o	Alt + 0242	lowercase o, grave accent
ó	option + e, o	Alt + 0243	lowercase o, acute accent
ô	option + i, o	Alt + 0244	lowercase o, circumflex accent
õ	option + n, o	Alt + 0245	lowercase o, tilde
ö	option + u, o	Alt + 0246	lowercase o, umlaut
÷	option + /	Alt + 0247	division sign

(*Continued*)

Character	MacOS	Windows	Description
ø	option + o	Alt + 0248	lowercase o, slash
ù	option + `, u	Alt + 0249	lowercase u, grave accent
ú	option + e, u	Alt + 0250	lowercase u, acute accent
û	option + i, u	Alt + 0251	lowercase u, circumflex accent
ü	option + u, u	Alt + 0252	lowercase u, umlaut
ÿ	option + u, y	Alt + 0255	lowercase y, umlaut

Appendix 2
Essential Non-Layer Concepts

While layers are the core component to a successful and productive workflow, and the main topic of focus for this book, there are a few essentials that fall outside the umbrella of layers. On the other hand, these same topics are so essential that if they are ignored they would make any progress the reader makes with this book a futile exercise. The concerns in this appendix are generally what would be called "beginner" in the sense that you need them to begin having success with the program, but at the same time some of these concepts may be concerns of intermediate and even advanced users. The facts are, you have to have good fundamentals to use layers, and that extends to the fundamentals of basic tool use, basic program setup (even if they encompass advanced concerns), and basic concerns of capture. For those who may need a primer in suggestions for what to do before you get an image into Photoshop, and what you absolutely need to focus on *besides* good layer technique, you have found your safe haven.

Setup and Capture

Setup is everything you need to do to prepare for image editing: being sure your capture device, system, and editing program are set up correctly and that you have considered the purpose or use of the image. It is important to have things in order even before you open an image to ensure you will get the results you want.

Non-Layer Essentials

- Be sure your computer system is Photoshop-ready
- Learn about all software you use
- Have a system for backup and archiving
- Know your equipment
- Capture additional frames when shooting
- Set up Photoshop
- Calibrate and define a sensible color management workflow
- Consider the final purpose of your images.

Be Sure Your Computer System Is Photoshop-Ready

Photoshop is a pig. It will try to use all the resources your computer leaves available to it. You need to consider the requirements for running Photoshop and if your system meets those requirements, such as how much RAM your computer has, the speed of the processor, and generally the ability of your computer system to handle the demands of image editing. Check the requirements (find these on the packaging or on the Adobe web site). These are minimums, and you want to have more.

You will want to maintain significant free disk space and establish a backup routine for images so you keep hard drive space clear (and have the appropriate media on hand). Concerns for your computer setup may extend to having a firewall in place, virus protection, and running basic maintenance with regularity to keep the system functioning and getting to know the warning signs that something is going wrong. For example, it is *never* normal for Photoshop to periodically crash. If the program misbehaves, it can be the software damage that causes the problem, and you may need to reinstall, but that is the less likely solution. Failure of the software is probably far more likely a symptom of a larger problem and suggests that your computer and system software need some TLC.

There are a lot of other options to consider for your system, including file storage (additional drives, drive space), input options, backup, and display (larger monitors and multiple monitor setups). Especially for image-editing, input devices like your mouse can be replaced with alternative devices that may be better for you and the way you need to work. I use a trackball and have for about 15 years (http://aps8.com/trackball.html), saving a lot of ergonomic wear. Many people like to use a graphic pen (http://aps8.com/wacom.html) for the sake of control. You are not limited to using only the system you purchased, and other devices may be more to your liking and enhance your working environment. If you do a lot of editing, you will want to make your image editing life as comfortable as possible by entertaining the options.

Learn About all Software You Use

Software is all around your expedition into Photoshop. A lot of peripheral hardware uses software. This includes things that are directly involved with your photo-processing like cameras, scanners, and input devices, but may include other parts of the process of image-handling software you may be considering (color management packages, alternative image-processing software, image organizing software, etc.). It also includes your system software as that is what services any software you add.

Generally my suggestion is to keep processes, installations, and the breadth of programs simple. It is not the case that more software makes for a better result. Some of it can be useful, and some just adds to the complexity…or even confusion and errors. If you can avoid installing an application that you do not need, it is probably a good idea to avoid it. A rudimentary image editing package that comes with a camera may be of no value if you already have Photoshop, so don't install it without thinking. If you find a lot of overlap in the software you use, you are probably working harder than you need to. You are also working harder to learn more software packages, and your system is working harder to house them.

Software and features in software packages vary drastically both in what is available and how the features behave. Know what your software can do. Your options for controlling hardware will help you get the most from your investments.

Have a System for Backup and Archiving

Be prepared and have enabled a system for backup of sensitive data and archive original image files safely before you begin work on them. This may require consideration of stocking archiving media and hardware. Archiving is crucial to a workflow in which you always work with a copy of an image to do all of your image editing. You need to safely store copies of all originals in case of drive failures or other catastrophic loss. If any step in the editing goes awry, or you lose an image, you will want to be able to return to the original image to start over. Working on copies will also give you the opportunity to "repurpose" the original in the future or take advantage of new and emerging technologies that might help you get more from the original image capture when they are introduced in the future. DVD drives, CD-ROM, RAID arrays, tape backup, external drives, and even online storage can all be considered in keeping your images safe. Usually a combination of these will be most effective.

I use a combination of RAID, DVD and off-site storage for my backup routine. The RAID (especially on Mac which has the technology built-in) is a minimal extra expense considering the value in immediate backups.

Know Your Equipment

The primary concern (beyond those already mentioned) is to know your camera and controls. Take command of your camera to get the best shot. This includes taking the utmost care in the actual capture of your images so that the result will be the most useful and of the highest quality. Starting with the best source image leads to the opportunity to achieve the best result. There is nothing that can substitute for good source images, no matter how well you know Photoshop.

Nothing will do more to help you get the best shot than knowing how to work your camera. This will include becoming familiar with your camera's unique settings, as well as conventional controls like aperture, shutter speed, and ISO. Working with settings as a tool helps you control image qualities of captures such as depth of field and framing. Proper settings extend to the use of other accessories, such as flash, and also mechanics like holding the camera perfectly still as you press the shutter or moving evenly as you track to follow motion or create special effects.

Knowing the settings is only half the battle; practice in using the modes and settings and creating interest in your captures will improve your photographic technique and enhance the improvements possible with Photoshop. If you use accessories, knowing how they function is important as well. An expensive panorama head is just as well left in the box if it is used with clumsy abandon.

One of the most important accessories for any piece of equipment you own is the owner's manual. Be sure to put yours to good use. Make friends with your manuals, and read them several times from cover to cover – or at least those sections written in your own language! For example, if you use a scanner you may need to address color calibration and profile building specifically for the scanner – and that would not be obvious from looking at the scanner and pressing the scan button. Take appropriate steps to setup, and don't shortcut wherever it may affect your results.

If you'll be shooting in the field, bring all necessary equipment. Have ample memory on hand to take all the shots you anticipate, plus 30% additional or more. Don't get caught without ample power (several sets of new or newly charged batteries for each device you may use or need to use).

I have a few personal rules for overkill. I consider every shoot as a unique venture to a new land from which there may be no easy return. I typically go to a shoot with several 4 or 8 GB cards on hand (see http://aps8.com/4gb.html or http://aps8.com/8gb.html). This is both small enough to confine subject matter to unique cards and large enough not to leave me shy of space, and can also help frame shoots (e.g., the first hour of a concert). In addition, I carry an 80 GB Wolverine portable hard drive that reads seven types of memory card and can be powered by battery (http://aps8.com/wolverine.html). Between these, I can store over 10 000 shots without downloading to my computer, and if I bring a laptop, I have the option of freeing the space to capture to much more. That is plenty of room for even horribly wasteful shooting. It helps ensure I take all the shots I may need and that I never worry about not having enough "film".

If you intend to scan nondigital images, be sure that you have the scanner you need to do the job. Using a flatbed scanner for printed images is fine, but even quality flatbeds will not make the best scans of negatives using a transparency adapter. Dedicated slide and negative scanners may be your best option for digitizing slides and negatives. Don't rule out a service. Most scanners have auto modes, but the best scans are often made with scanners that allow manual adjustment during the process of scanning. If you use a scanner, settings for optimal scanning will often be achieved manually or via some manual intervention. In the case of scanning, resolution, color mode, white point, and more may be choices you will need to make to optimize results.

Capture Additional Frames When Shooting

Don't be afraid to snap the shutter with your camera pointed at any subject that you might later use for retouching, compositional changes, or enhancements. If you don't take a photo, you will not have the source to work with. For example, if shooting a group portrait you might take three to five shots of the group to be sure smiles are in place, eyes are open, and poses are acceptable. You want to capture enough source images to make necessary enhancement and replacement easy. If shooting a high-contrast scene, you may want to make one exposure for the highlights and one for the shadows so you can merge the results later. Don't be too quick to delete potentially useful images just because they are not perfect in preview. You should have plenty of memory for more images (as per "Know your equipment"), and weed out the clunkers in Photoshop, where you can give them a fair look.

Set up Photoshop

There are a *lot* of choices in the Photoshop preferences. Just about every one of them has been around for a while and is already well considered in the choices of the defaults. Just because there are controls and the opportunity to change things, don't go in and start making preference changes willy-nilly. Be sure you know what the changes apply to, and err on the side of conservative by changing one preference at a time and allowing a few days to be sure it is a keeper before changing anything else. Keep track, or expect heartache down the road when you have to weed out a weird, and inexplicable, behavior.

Along that line, avoid making changes to the shortcuts. It is a huge temptation, but it is probably better to add a shortcut option than to change them. To add shortcuts, you'll want to record actions and apply shortcuts to the actions. That way, when you follow a tutorial, the old and new shortcuts will work.

Color management preferences are part of setting up Photoshop to sensibly handle your images. You need to have a sensible color handling process. Other setup choices include preferences for scratch disks/memory usage. It is not unheard of to dedicate a hard drive to the sole purpose of being a Photoshop scratch disk, but if you do, you have to let Photoshop know that the space is at its disposal. Giving Photoshop a lot of room to do what it does ensures your best chance of getting the results you intend consistently and that your system functions optimally, and it is a pig, but only within its barnyard. Make sure the fence posts are set up accordingly.

Calibrate and Define a Sensible Color Management Workflow

If you have ever needed to wear glasses, the prescription you get from testing your eyes is what makes the result sharp and clear. A custom color profile is, essentially, very similar in that it is the measured and prescribed test for success in seeing your images correctly. Profiles are usually defined during the calibration process done with calibration systems (depending on the system). A profile helps your system and Photoshop compensate for color display to "normalize" the color between systems, and acting as the color compensation so that you see the right color.

Calibration is an essential step in color management and matching what you see on screen to what will appear in print and on other monitors. It is an oversimplification that calibration alone will make your color accurate (e.g., you need to understand color management to choose a good method of handling color). You want to calibrate devices that deal with image interpretation and display, such as your monitor, scanner, and printer. Some devices will come with calibration devices and software. Third party calibration devices (such as ColorVision Spyder Pro monitor calibration (http://aps8.com/spyder.html)) can simplify calibration tasks, make calibration more accurate, help manage ICC profiles, and make color management less of a chore.

If you do nothing to get your color workflow in line, you can still have good color results, but that is the result of luck, and, at some point, it may run out. Even in the case where you exceed your expectations, better to take note and wonder why as if it were a mistake than to just be happy. When color management goes wrong, it will happen during the most expensive print job you have ever done, and you'll end up paying for it twice.

Color management does not have to be expensive, but it should be sensible and considered. Once it is sensible and considered, you need to test it to prove the concept and the result. Once you have a good color management process, it should handle most or all of your necessary color translations and provide consistent color accuracy. It is not something terribly easy to figure out on your own. You may want to consider other options to get it under control (see http://photoshopcs.com/courses.html).

Consider the Final Purpose of Your Images

Resolution, image size, color space, color management, file type, compression type, and purpose all affect the final result, and that in turn can affect your choices in setup. You may work at different resolutions and in different color modes throughout the image-editing process for specific purposes, but knowing what you need from the outset of the project can help you work smarter, with less possibility of getting into situations in which you compromise image integrity. It is not a good idea to use a lossy compression type with archive images. It may not be a good idea to crop images to a specific size if it compromises resolution that may be useful at another time. On the other hand it can be an advantage to shoot an eBay product picture at a lower resolution, or to consider whether an image will be used in print or online when making color management choices. The best guideline here is to avoid the bad choices. Choices can only be bad if they run counter to the purpose of the image.

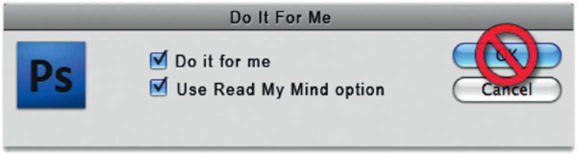
Photoshop's Essential Tools List

When an electrician has to climb a telephone pole to fix a problem, he or she doesn't bring every tool in the toolbox. The practical, handy tools go in the belt, and up the pole they go, ready to handle any problem. Photoshop can be looked at in a similar way. The real trick is knowing what tools will handle any job, so you can put those in your belt, and cutting down to the essentials so you can focus on the task. A master tool list of functions that you should be familiar with is included here. This appendix includes a list of tools that you want to be not just aware of, but competent using to get the most out of your corrections with layers and Photoshop in general. With a core set of tools you'll be able to focus on learning just those tools rather than trying to grasp the function, use, and nuances of each and every tool on every menu – some of which are redundant and essentially unnecessary. When you have less to remember, you have far less to get lost in by randomly exploring tools and functions that you hope will do the job. Exploration and experimentation can be left until you have more expertise, time, or interest (though you should always give exploration a time limit, or you'll get lost). With a lighter tool belt you'll have everything you need when you climb the pole, and you'll be sure to get the job done without coming down to waste time foraging around in the van for more tools.

The Mythical "Read My Mind" and "Do It For Me" Tools

In talking with people about Photoshop, one tool that they always seem to have thought they read about in a tutorial, or saw at a conference, or read about in a book, is the *Read My Mind* tool (also known as the *Do It For Me* tool, or even the *Read My Mind and Do It For Me* tool). It seems the eternal hope is that Photoshop will be able to do the thinking. It is terribly frustrating when you get an idea of how a result will look in your head and you use the buttons and functions you thought you should and then don't end up with the result you expected. If you are able to imagine how you want something to look, it means you have a good imagination and eventually Photoshop will work out well for you. However, the tools never do the thinking for you, and they never know what you see in your mind's eye, even if their names suggest they know what you are thinking.

Really, you never want the computer to do the thinking for you. The reality of using Photoshop is that automated tools for correction make approximations. Computers can never see an image to make an aesthetic judgment; they just perform calculations. You are never hardwired to Photoshop, and the program itself isn't much of an artist – regardless of what you pay for it or what version you own. You may think you can depend on it to make images better, but really all it does is enable you to make images better. Most of the unpredictable tools are exactly the ones we steer away from if you use the tool list supplied here. To be sure rumors are dispelled: there are no tools that think for you. No matter how elegantly they work, tools will not "read your



Do It For Me

☑ Do it for me

☑ Use Read My Mind option

FIGURE A2.1 The only tools that attempt to automate corrections are those that you probably shouldn't use

mind" or "do it for you" and certainly none will do both – whatever the task. That is as it should be (Figure A2.1).

The following list is categorized into External Applications, Commands, Functions, Freehand Tools, and Filters. Each is explained more fully by section. You can use other tools or additional applications as you explore Photoshop, consult tutorials, or develop your own work flow, but this list will be comprehensive as a base in reflecting what you absolutely need. Looking over these lists, there are just about 30 tools to keep in mind for editing your images. That may sound like a lot, but it is a fraction of the total number of tools, yet a complete tool belt that will help you get through any image-editing situation. Be sure to become familiar with these if you are not already.

External Applications

External applications are the additional software items that you add to your system to enhance processing. There are a plethora of add-ons you can install for Photoshop, some free and some for a cost, that claim to add on to what Photoshop already does. These may come in the form of plug-ins, actions, scripts, custom shapes and brushes, etc. Some of these additions may be valuable additions (like those included with this book). Some will be good for users who are already very familiar with the tools in Photoshop, who know what they want to accomplish with the program, and who are looking for a specific enhancement. Generally, the wealth of available add-ons and plug-ins may seem tempting, but many plug-ins and add-ons just duplicate or repackage functionality already in Photoshop, sucking in users with claims that they are the *Do It For Me* tool. For the most part they promise a lot, deliver a little, and add to the bulk of things you already have to learn. Yes, that's right, you have even more to understand with every tempting addition, not less! For this reason I always suggest keeping add-ons to a bare minimum or avoiding them completely.

There are really very few external software applications that you need to work with Photoshop and your images. Those that you do need are mostly a given. You will need a computer that has operating system software capable of running Photoshop. You will also sometimes need drivers that are provided by the vendor of the additional equipment you purchase (for your printer, camera, backup systems/drives, etc.) or other manufacturer software to run hardware and devices. A few things you will need that are less obvious are software utilities to calibrate your monitor and build an ICC profile (recommended). Some things you may want, such as additional editing software, HDR plug-ins, image management, etc., are not necessary, and they shouldn't be allowed to cloud the picture. Hold off on them if you are still working on the basics.

NOTE: A few programs such as *Lightroom* and *Aperture* have somehow gained popular status as "essential" Photoshop applications. It shocks people that I do not own or use them. This is not to say they cannot be valuable tools, only that I have not found essential needs I have that they would cover any better than Photoshop or methods I currently use. Likewise, many people buy the Extended version of Photoshop when the standard version is sufficient for just about anyone who is primarily doing image editing. If it costs extra, consider what the specific differences and advantages are. You may be able to invest that same expendable cash in something that will provide greater value.

The best overall plan in managing peripheral applications is similar to limiting your tool list: keep it simple so complexity and potential variables stay at a minimum. More software means more to learn, so put all the nonessential software aside. If you have trouble with your computer system, the first place to start troubleshooting is by eliminating extra software and peripherals – or simply not adding them as variables in the first place.

Table A2.1 lists the software that are essential additions to working with Photoshop and image editing.

TABLE A2.1 Essential External Applications

Application	Purpose
Operating System	Photoshop requires an operating system in order to run. This can be Windows, Mac OS, Linux or other system software compatible with your computer hardware. Your version of Photoshop needs to be compatible with the operating system software. Usually operating system software will come bundled with, and pre-installed on, your computer
Monitor Calibration Software	Monitor calibration and creating profiles can help you stabilize your work flow and get better color matching between your monitor and your output. If you have problems with output color, the solution will likely start with good monitor calibration. Calibration solutions that are strictly software oriented are available, but not completely reliable as any of these packages trust calibration to your eyes: too many things can affect vision, even if your eyes are good, for you to make accurate calibration by eye. Hardware calibration packages (calibration software coupled with a hardware sensor that reads light directly from your monitor) are available for little money (ColorVision SpyderExpress: http://aps8.com/spyder.html), and are infinitely more reliable than software-only solutions. Without calibration and ICC profiling, you are guessing when it comes to color

(*Continued*)

TABLE A2.1 *(Continued)*

Device Software	Software that enables you to access additional hardware that you will be connecting to your system to access or store images can be required. This includes software for scanners, digital cameras, printers, card readers, backup/DVD/CD/RAID drivers, and other hardware that is compatible with your operating system. See user manuals and installation instruction materials for each device you add to the system for more information and to make sure the software is required for operation. Hardware often comes with additional software that is unnecessary
Photoshop Help	The Photoshop Help system is a reliable resource for basic information on using Photoshop features and functions and is a great place to begin exploration of any Photoshop tool, and the price is right (free). Depending on your choices during the installation of Photoshop, this feature may require additional installation. It is worth the install and minimal maintenance. Access it through the Help menu (Help>Photoshop Help), or press F1. Get in the habit of looking here first when you need a solution for how things work.

Commands

Commands are simple functions – essentially a single step – used to achieve a result. I say “essentially” because you may have to address a dialog to get the result accomplished. For example, if you open an image, you will need to use the Open command. In the Open dialog, you will have to browse to find the image you want to open.

Commands can be found on the program and palette menus. Some commands will be duplicated in that they can be accessed from more than one place, or by using shortcuts (available for the more popular commands). The essential commands are listed in Table A2.2.

TABLE A2.2 Essential Commands

Command	Access	Purpose
New	File>New, or press Command+N Crtl+N	Opens the *New* dialog and creates a new image. In the New dialog, you can set the color, size, and resolution. You might use New to create a canvas on which to add other images to make a composite or collage
Open	File>Open, or press Command+O Crtl+O	Opens an image previously saved as a file. You will use this command often to open images you have downloaded from your camera

(Continued)

TABLE A2.2 *(Continued)*

Save As…	File>Save As…, or press Command+Shift+S Ctrl+Shift+S	Opens the *Save As*… dialog. Save your image with a new name, file type, or location. It is suggested you use *Save As*… most or even all of the time to avoid file conflicts and potential for overwriting original files
Save for Web	File>Save for Web, or press Command+Shift+Option+S Ctrl+Shift+Alt+S	Save images for the web using JPEG, GIF or PNG file types, limited color, and transparency. Using *Save for Web* results in a smaller file than just saving as a JPEG even with the same compression ratio. There are additional benefits in the *Save for Web* dialog for previewing saved results and the effects of different compression and style choices
Undo	Edit>Undo, or press Command+Z Ctrl+Z	Reverses the previous action you took in editing an image. This is useful for all sorts of things, but mostly for stepping back in the process when you don't like what a change achieved. To step back multiple steps, look to the History palette (Window>History)
Copy	Edit>Copy, or press Command+C Ctrl+C	With a selection active in your image, you can copy the selected image area to the clipboard. Think of this like you might use copy/paste to move a URL to a browser or to edit text in an email. Copy can be used to duplicate custom selected image areas or move image content to a new layer or different image
Paste	Edit>Paste, or press Command+V Ctrl+V	Paste the content of the clipboard that was stored using the Copy command into the current image. Copy and Paste are almost always used together to duplicate selected image areas to the same image or other images
New Layer	Layer>New>Layer, or press Command+Shift+N Ctrl+Shift+N	Creates a new layer with no content. New layers can also be created with the Create a New Layer button at the bottom of the Layers palette and the New Layer command on the Layers palette menu
Duplicate Layer	Layer>Duplicate Layer	Creates a new layer that is exactly like the one being duplicated but with the word "Copy" appended to the layer name. The Duplicate Layer command is also available on the Layers palette menu or you can duplicate a layer by dragging an existing layer to the Create a New Layer button at the bottom of the Layers palette
Create Adjustment Layer	Layer>New Adjustment Layer>layer type	Creates a new adjustment layer. These help you keep adjustments distinct from layer content. You can also create these with the Create New Fill or Adjustment Layer buttons at the bottom of the Layers palette

(*Continued*)

TABLE A2.2 *(Continued)*

Merge Layers	Layers>Merge Layers (Command+E/Ctrl+E), Layers>Merge Visible (Shift+Command+E/ Shift+Ctrl+E)	Makes a composite of the content of two or more layers. One of several ways to cut down on the number of layers in your image and be sure the file isn't unnecessarily large. Merging only where you don't expect to have to reverse the changes later
Flatten	Layers>Flatten Image (no shortcut)	Very much like Merge Layers, but this function specifically combines all layers and image content and flattens the image into a Background layer leaving no separate content layers
Image Size	Image>Resize>Image Size, or press Command+Option+I Ctrl+Alt+I	Allows the user to change the size and resolution of an open image. Upsampling an image (making it bigger) by more than 10 or 20% is not recommended as you cannot re-create detail that you did not originally capture. Downsampling decimates image information. Use Bicubic resampling in most cases to get the best resizing result and Constrain Proportions so the image does not distort horizontally or vertically
Transform	Edit>Transform, or press Command+T Ctrl+T	Allows users to reshape an object. This can come in handy when you have to patch an image area that is missing or damaged, or when you want to reshape a copy/pasted item that is in its own layer
Inverse	Select>Inverse, or press Shift+Command+I Shift+Ctrl+I	This will invert an active selection. This is great for making a selection of an object when it is easier to make a selection outside an object than of the object itself (e.g., green screen)
Fill	Edit>Fill, or press Shift+F5	Will fill a whole layer in your image with a single color (foreground, background, black, gray, or white). This is useful for calculations (e.g., separating luminosity and color)
Layer Opacity	Opacity slider on Layers palette (no shortcut)	Adjusts transparency/visibility of individual layers in an image to blend and combine layer content and effects. A variety of uses in blending layer content and for color and tone adjustments. Use up and down arrow keys for fine adjustments
Layer Mode	The Mode drop-down list on Layers palette	Applies layer content conditionally by performing specific calculations associated with a given mode. The most useful modes are: Normal, Multiply, Screen, Overlay, Color, and Luminosity. Normal mode is the default, Multiply is used for darkening, Screen is used for lightening, Overlay is used for contrast enhancement, Color applies layer color only, and Luminosity applies tone sans color

Exploring Commands, Functions and Freehand Tools

One of the reasons users find Photoshop daunting is that they try to learn too much – or even all of it – at once. A better approach will be to learn a tool at a time. If there are tools in the list here with which you are not familiar, note them down, and give yourself the opportunity to explore them one a day, for as many days as it takes, 15 minutes a day on each one, until you get through the list. Make your 15-minute sessions productive by looking up the tool in Photoshop Help (in Photoshop, press Command +/or Ctrl+/Mac/PC), read the description, and apply the tool/function to a sample image to actually see how it behaves. Don't look so much for expert results as the opportunity to learn how the tool behaves. That experience will go a long way toward incorporating it into your work flow. In this way you can build your repertoire of the necessary tools in a short period of time. Fifteen or twenty minutes a day for a month would cover this entire list, but chances are you are familiar with many of them already. If there is a tool or two that you don't get the hang of right away, put it aside, and start a new list that allows 30 minutes to explore a tool.

Functions

Functions are more complex than commands. Using functions you will have to determine how to apply settings to achieve results, usually using multiple controls and function features to determine the final outcome. Adjustment of more than one control is usually necessary. Nothing can be achieved using the defaults. See the list of Essential Functions in Table A2.3.

TABLE A2.3 Essential Functions

Function	Access	Purpose
Levels	Layer>New Adjustment Layer>Levels	Creates a Levels Adjustment Layer. Used for color correction and to enhance image contrast and color. View image information as a histogram in the Levels dialog and use simple sliders to adjust dynamic range and balance image color
Color Balance>Layer>New Adjustment Layer>Color Balance	Creates a Color Balance Adjustment Layer. Used to remove color casts in images by balancing the influence of color opposites for highlights, midtones, and shadows using sliders	

(*Continued*)

TABLE A2.3 *(Continued)*

Hue/Saturation Layer	Layer>New Adjustment Layer>Hue Saturation	Creates a Hue/Saturation Adjustment Layer. Used to enhance color saturation. Adjust color by using slider controls to alter hue, increase/decrease saturation, and affect general lightness/darkness
Layer Mask	Layer>Layer Mask>Reveal All (no shortcut)	Customize visible image areas in a layer by hiding or showing content selectively without permanent erasure. Useful for blending in pasted image areas and molding/fitting parts of a collage or composite. Often used in conjunction with Selection (Polygon Lasso, Magic Wand), Fill, and/or the Paintbrush tool
Blending Options	Layer>Layer Style>Blending Options, or double-click a content layer	Opens the Layer Style dialog. This screen is a command center for controling many options, like General Blending (Mode and Opacity), Advanced Blending (Fill Opacity, Channel Targeting), Blend If (conditional blending based on layer content), and Layer Styles (effects/styles assigned to the layer). Can be used for a wide variety of content blending and effects

Freehand Tools

The toolbar has freehand tools on it that you will use infrequently or not at all. By freehand tools, I mean tools whose application is controlled by your input device and the position of the cursor using clicks or click-and-drag.

For all of these tools, be aware that options on the Options bar will affect the way the tools are applied. For basics about options for each of these tools, look them up by searching Help for "[tool name] options." Table A2.4 lists the essential freehand tools.

TABLE A2.4 Essential Freehand Tools

Freehand Tool	**Access**	**Purpose**
Crop tool	Press C on the keyboard	Used to resize images by permanently removing (cropping out) image edges. Use this to correct framing for your image, flatten horizons, remove objects at the edge of the image that shouldn't be in the frame, and adjust perspective (e.g., make images 4×6)
Polygonal Lasso tool	Press L on the keyboard and Shift+L to scroll the Lasso tools	Create selections of regular and irregularly shaped image objects by clicking at intervals around an object edge. Use short segments to select curved edges. Easier to control than the standard Lasso tool

(*Continued*)

TABLE A2.4 *(Continued)*

Magic Wand tool	Press W on the keyboard	Create selections of areas of same/similar color quickly by clicking in the area. Great for making selections of large, similarly colored areas (sky) or selecting objects with a single-color background (select the background and invert the selection). Helpful for quick selections but not always very accurate
Move tool	Press V on the keyboard	Use to reposition objects on layers within your images, such as you might have when pasting replacement areas or when working with collages or composite parts
Clone Stamp tool	Press S on the keyboard	Make brush-style corrections by sampling image areas to clone to another part of the image. Great for straight duplication of one image area to another. Excellent for all manner of spot correction such as dust or other simple debris. Often best used in conjunction with Healing
Healing tool	Press J on the keyboard, and Shift+J to scroll the Healing tools	Make brush-style corrections by sampling image areas to clone to another part of the image. Healing is similar to Clone Stamp, but this tool makes "smart" corrections by comparing the sampled area to the target and attempting to blend the correction with the surroundings. Perfect for making isolated corrections, like removing a stray eyelash from a cheek. Best used in conjunction with the Clone Stamp tool
Paintbrush tool	Press B on the keyboard, and Shift+B to scroll the Brush tools	Used for freehand painting. Good for colorizing, adding manual shadows and highlights, adding dodge and burn effects, and for use with creating freehand masks.
Eyedropper tool	Press I on the keyboard	Sample to check color and tone values in specific image areas or to set the foreground/background colors that can be used with Fill or Paintbrush. Also used in conjunction with the Info palette to display sampled color information
Foreground/ Background Swatches	Double-click the desired swatch to open the Color Picker; Press D for default colors, and X to exchange foreground and background	Store foreground and background colors used for a variety of purposes including type and paintbrush color (foreground) or filling deleted image areas and extended canvases (background). To change the foreground color, use the Eyedropper tool and click anywhere on your image. To change the background color, press Option/Alt and click on your image

Essential Filters

Filters are an area of the program menus that get explored by users who flock there to try out special effects and put some pizzazz into their images. The foray into filters is usually one that is hit or miss, and although you can spend innumerable hours applying various filters and settings, in reality, you get less pizzazz from filters than you get from shooting better images, planning image adjustments, and using good image correction techniques.

It is often difficult to predict exactly how a filter will behave and what benefit you will get from the result of applying it. There are only a few filters that are useful day-to-day, and these are the practical ones that you will use for image correction, to fix damage, and to create simple effects. The filters listed in Table A2.5 provide you with a means of control and improvement.

TABLE A2.5 Essential Filters

Filter	Access	Purpose
Add Noise filter	Filter>Noise>Add Noise	Adds digital noise to an image. Useful for roughening up tones that are unnaturally smooth, such as areas painted with a Fill or Paintbrush tool. Sometimes used in conjunction with Gaussian Blur
Gaussian Blur	Filter>Blur>Gaussian Blur	Blends adjacent pixels to create a smoothing or blurring effect. Blur filter useful for smoothing out tones that are unnaturally rough or oversharpened or for creating focus effects (e.g., soft focus, depth of field)
Unsharp Masking	Filter>Sharpen>Unsharp Mask	Allows user to adjust both local and fine contrast in the image to affect the appearance of sharpness, improve edge definition, and enhance contrast in color and tone
Offset	Filter>Other>Offset	Allows users to choose precise layer positioning

Other Essentials

If you have ideas or interests in other essentials, go to the forum for the book and discuss your ideas. You can ask questions about why features are selected as essential, propose other essentials, and share your ideas. Just go to: http://photoshopcs.com/forum

Index

A

Actions:
- automating effects, 127
- loading, 126, 228
- quick reference, 209

active layer changes, 22–23
Add Noise dialog, 77, 78*f*, 248*t*
adding:
- color, 88, 89
- layers
  - for changes, 44
  - content adding, 66
- new sky, 163, 176, 177*f*
- panoramic information, 195
- shortcuts, 237
- soft focus, 90–91

additive light, 149
add-ons, Photoshop, 240
Adjustment layers, 43, 44, 214–216*t*
- Blend If application, 96
- Color Balance, 57, 58*f*, 167*f*, 169*f*
- creating, 218–219*t*
- HDR conversions, 205
- history comparison, 54–55
- isolating corrections in, 44–45
- Levels, 45, 50–53, 85, 86–87, 245–246*t*
- settings, 66, 175*f*

Anti-alias, 70
Aperture program, 241
archiving systems, 235
auto-exposure mode, 189
automated tools, 239
- HDR conversions, 200–201
- manual effects, 125, 127
- panoramic shots, 189, 190

B

Background layer, 214–216*t*
- Clone Stamp/Healing, 61*f*
- creating layer from, 218–219*t*
- Duplicate Layers, 20*f*
- noise reduction, 90
- object isolation, 69
- opacity, 24, 25*f*
- properties, 16

Background Swatches, 246–247*t*
backup systems, 235
balance:
- Color Balance, 6–7, 167, 169*f*, 245–246*t*
- Levels slider changes, 48, 49*f*

basics, 1–41, 233
Before and After comparison methods, 93–94, 93*f*, 225
beginners, 1–41, 233
Bevel effect, 117*t*, 119
bit count, HDR images, 196–197
black-and-white images, 152–156, 158
see also grayscale images
black slider, 48*f*, 53*f*, 103*f*, 104*f*
Blend If:
- actions, 95, 108*t*
- application, 100–105
- overview, 100
- splitting sliders, 106
- targeting
  - change with, 109–110
  - to a mask, 111

blending, 27–28, 191, 195, 245–246*t*
blocking up, 145
blowing out, 145

Blue Channel, 47*f*, 159, 159*f*
  grayscale images, 152
  isolating Levels change, 52, 52*f*, 53
blur:
  changing radius of, 38*f*
  color effects, 88
  Composite layers, 84
  filters for, 248*t*
  HDR conversion, 204, 205
  noise reduction, 77–78, 83, 84–85
  unsharp masking, 142–143, 144–145
border selection, 35, 36, 36*f*
breaking out *see* separations
brightness extraction, 90–91
Brush tools, 246–247*t*
  Layer masks, 89
  noise reduction, 80, 80*f*
  opacity, 88
Brushes panel, 14, 15*f*
Building Grunge sidebar, 173–174
Burn modes, 219–223*t*

C

calculations, Modes, 136, 139, 142–143, 154
calibration:
  color management, 237–238
  monitor, 241*t*
camera equipment, 235–236
camera information, 163–167, 164*t*
  HDR images, 197
  panoramic shots, 187, 190
  see also shooting images
Camera Raw, 3
canned effects/styles *see* Effects; Styles
canvas creation:
  collage, 184–185
  panoramas, 193–194, 195*f*
Canvas Size:
  choosing, 36
  panoramas, 193–194, 196
  resizing, 37*f*
capturing:
  additional frames, 237
  composite layers, 84–85
  setup for, 233
changes:
  adding layers for, 44
  comparing changes, 225
  composition changes, 7–8, 9, 165
  focusing application of, 22
  isolation methods, 43–64, 65, 66, 90, 211
  layer for every change, 18
  targeting
    with Blend If, 109–110
    in HDR conversions, 204*f*
    by isolation, 43–64, 65
    with layers, 43–64
    by masking, 65
    see also correcting images
channels, 90, 147
  camera exposure, 165, 166*f*
  contrast enhancement, 168*f*
  histograms, 4*f*, 46*f*, 47
  separating color components, 154
  see also Blue Channel; Green Channel; Red Channel
characters, special, 229
Cleanup layers, 59–63
clipping groups, 66, 84, 214–216*t*
*Clipping layers, 98–99, 141, 141*f*, 214–216*t*
clipping masks, 214–216*t*

clipping-out images, collage, 184–185
Clone Stamp, 60–61, 72, 246–247*t*
CMYK images, 149
collage, 183, 184
  examples, 185–187
  guidelines, 184–185
  panoramas, 191
collapsing group layers, 30, 31*f*
collating images, 194
collecting images, 184–185, 188*f*
color:
  adding freehand, 89
  basics, 11, 12*f*
  isolating change by, 90
  RGB black-and-white as color, 152–153
  tone separation, 138–140
Color Balance, 6–7, 57, 58*f*, 167, 169, 245–246*t*
color-based blending, 107
Color Burn mode, 219–223*t*
color casts, 54, 57
color component separation, 147, 149, 150*f*, 151*f*
  actions, 227
  black-and-white images, 152–153
  RGB light separation, 149–151
  using, 154, 155–156, 158
color correction, 6–7, 9
  Blend If, 100
  Levels Adjustment layers, 45, 50–53
Color Dodge mode, 219–223*t*
color effects, 89, 117*t*, 129, 129*f*
color enhancements, 85, 86–87
  Color Layer, 141
  freehand, 87–90, 88
  soft focus, 91*f*, 91–92
  unsharp masking, 146
color management, Photoshop, 237–238
Color Modes, 136, 137*t*, 138–139, 143–145, 219–223*t*
color range sampling, 86*f*, 87
color saturation, 171–172, 172*f*
color-shifting effects, 54
combining… *see* merging…
commands, 242–244*t*, 242, 245
comments, 132*f*
comparison methods, Before and After, 93–94, 93*f*, 225
compiling images, 194
component-based separation *see* color component separation
composite images, 183
Composite layers, 83, 84–85
composition changes, 7–8, 9, 165
compressing HDR images, 201*t*
Comps *see* Layer Comps
computer system Photoshop readiness, 234
concepts:
  layer-based work, 11
  non-layer, 233
consistency, Smart Objects, 33
content of layers:
  adding, 66
  hiding/revealing, 23
  hierarchy, 28
  inverting, 25
contrast enhancement, 165, 168*f*, 171, 175*f*
  sharpening, 94
  Unsharp Mask filter, 96
converting HDR images, 196, 200–201, 201–202
copy/paste, 69–72, 74, 184
see also collage
copyright layer, 21, 40

correcting images, 2, 3, 8–9
  Adjustment layers, 44–45
  collage, 184–185
  hit list for, 76
  isolation, 44–45, 65
  layers use, 17
  masking, 65
  order of corrections, 9, 209
  see also changes
Create Layers, 18–22, 218
cropping images, 165, 167, 169, 170*f*
  basics, 4–6, 5*f*, 6*f*
  checklist, 4–6
  functions, 246–247*t*
  panoramas, 193, 193*f*
Cropping Layer, 169, 170*f*, 227
cyan, magenta, yellow and black (CMYK) images, 149
Cylindrical option, panorama, 191

D

damage removal, 7, 59–63
Darken mode, 219–223*t*
darkening images 178–180,
Darker Color mode, 219–223*t*
darkroom effects, 142
debris removal, 7, 59–63
decimation, 195
Deep knockouts, 113, 113*f*, 114
defining color management workflow, 237–238
deleting:
  layers, 21
  Styles, 122
depth-of-field, 187
destructive techniques, 75
details, Levels changes, 48*f*
device software, 241–242*t*
Difference mode, 219–223*t*
digital camera exposures, 163–167, 164*t*
direction of light, 185
Dissolve mode, 219–223*t*
distortion, 191, 193, 195
'Do It For Me' tool, 239
Dodge modes, 219–223*t*
downloading Styles, 122–124
Drop Shadow, 37*f*, 38, 39, 117*t*, 124, 130*f*
Duplicate Layers, 18–22, 82, 218–219*t*
dust removal, 7, 59–63
dynamic range, 187
see also HDR images

E

edge lines:
  Find Edges filter, 173–174, 173*f*
  Healing tool, 62, 63*f*
  noise reduction, 80, 81*f*
  sharpening, 94
editing:
  order, 209
  outline, 209
  see also image editing
Effects, 224
  Actions, 228
  applying, 115
  basics, 116–119, 117*t*
  collage, 185
  manual effects, 124–125, 127, 128–131, 143–145
  Styles relationship, 119, 120, 224
eliminating dust, 7, 59–63
Emboss effect, 117*t*
enhancements, 8, 9
  contrast, 89–90, 96, 165, 168*f*, 171, 175*f*
  freehand color, 87–90, 88

  isolating changes, 76, 85, 86–87
  natural color, 85, 86–87
  soft focus, 91*f*, 91–92
  unsharp masking, 146
  see also color enhancements; Effects
Equalize Histogram, HDR images, 201*t*
erasing image areas, 75
essential features, 209–232
evaluating images, 3–4, 4–6, 162, 163, 209
Exclusion mode, 219–223*t*
EXIF data, 163–167, 164*t*
expanding group layers, 30, 31*f*
experimentation, 4, 135–136
Exposure and Gamma HDR conversion, 201*t*
exposure information:
  EXIF data, 163–167, 164*t*
  HDR images, 197, 198, 201*t*
external applications, Photoshop, 240, 241–242*t*
extracting brightness, 90–91
Eyedropper tool, 86, 87, 246–247*t*

F

Feather option, 70, 205
file handling, 9–10
Fill layers, 214–216*t*, 218–219*t*
Fill option, 24, 77, 132, 133
filters, 247–248, 248*t*
  choosing, 84
  Find Edges, 173*f*, 173–174
  Unsharp Mask, 95–97, 248*t*
Find Edges filter, 173–174, 173*f*
fingerprint of light, 45
fixing damage, 7, 59–63
flattening images, 138
floating image window, 70*f*
Foreground Swatches, 246–247*t*
foundations/basics, 1–41
framing changes, 5
freehand color, 87–90, 88, 89
freehand masking, 74–76, 97, 97*f*
freehand tools, 245, 246, 246–247*t*
functions, 245–246*t*, 245

G

Gaussian Blur, 78, 78*f*, 88, 248*t*
general color correction, 6–7, 9, 45, 50–53
Geometric distortion correction, 191
Gradient:
  Blend If, 101, 101*f*
  Effects, 117*t*
  panoramas, 195
grayscale images:
  as color, 152–153
  Modes, 138, 139*f*
  RGB light separation, 151, 151*f*, 152
  using, 154
Green Channel, 46*f*, 155, 157*f*
  grayscale images, 152
  isolating Levels change, 51, 51*f*
group layers, 29–30, 180*f*, 214–216*t*
see also clipping groups
'grungy' images, 163, 171, 173–174, 175*f*

H

haloing, 94
handpainted… *see* freehand…
Hard light mode, 219–223*t*
Hard Mix mode, 219–223*t*

HDR images:
  automated conversions, 200–201
  composites, 187, 188
  creating in Photoshop, 198
  exposure for, 197, 198
  manual conversions, 202, 203
  processing, 163, 196
  RAW files, 163
  working with, 196
Healing tool, 246–247*t*
  Color Balance, 57
  edge lines, 62, 63*f*
  Repair/Cleanup, 60–61
Help system, Photoshop, 241–242*t*
'heroics', 7–8, 9
hiding layer content, 23
hierarchy of layers, 28
high dynamic range images *see* HDR images
Highlight Compression, HDR images, 201*t*
highlighting layers, 22, 23*f*
highlights:
  Bevel effect, 119
  Blend If application, 105*f*
  channel shifts, 168*f*
  Color Balance, 57, 58*f*
  HDR images, 196–197, 201*t*, 204*f*
  isolating for soft focus, 91–92, 92*f*
  noise, 50, 51*f*
histograms:
  channels, 4*f*, 46*f*, 47*f*
  HDR images, 201*t*
  light fingerprint, 46
  shortened tonal range, 47
History Snapshots:
  Adjustment layers, 54–55, 55*f*
  Before and After comparison, 93*f*, 94
HOLE layer, knockouts, 113, 113*f*
horizon changes, 4–6
Hue mode, 219–223*t*
Hue/Saturation layer, 245–246*t*
  color effects, 88
  creating, 39
  Eyedropper tool, 87

I

image editing, 8, 209
  checklist application, 163
  outline, 3, 163*t*, 209
  as process, 2, 11, 161
image enhancements *see* enhancements
image evaluation *see* evaluating images
image noise *see* noise
image object isolation, 66–69, 69–72
image window resizing, 70*f*
Inner Glow style, 117*t*, 118–119, 119*f*, 128, 129*f*
interpolation, 195
see also adding
inverted content, masking, 25
isolation:
  corrections in Adjustment layers, 44–45
  by freehand masking, 74–76
  highlights for soft focus, 91–92, 92*f*
  image objects, 66–69, 69–72
  Levels Adjustment layers, 50, 50*f*, 51*f*
  by masking tone, 90
  methods of, 66, 211
  shadows, 174, 179
  targeting changes by, 43–64, 65

J

JPEG files, 3, 9–10

K

knockouts, 111–113, 178, 179*f*

L

Lasso tools, 69, 70*f*, 71*f*, 246–247*t*
layer-based sharpening, 142–147
layer-based work flow concepts, 11
Layer Blending, 27–28
see also blending
Layer Clipping, 66
see also clipping…
Layer Comps, 18, 34, 56, 56*f*
Layer Effects application, 115–133
Layer Masking, 25–27
  Blend If differences, 107
  Brush tools, 89
  freehand, 97, 97*f*
  functions, 245–246*t*
  HDR conversions, 203–204
  isolating changes, 66, 75
  panoramic shots, 195
  sharpening with, 97, 97*f*
  see also masking
Layer Modes, 24, 66, 135–159, 219–223
Layer Opacity, 24, 66
see also opacity
layer stacks:
  HDR conversions, 203*f*
  organizing, 28
  panoramas, 194
  unsharp masking, 142*f*
Layer Styles, 66, 115–133, 224
Layer Visibility, 23
see also visibility
layers:
  benefits of, 17
  creating, 18, 218–219
  definition, 11–13
  drawbacks, 17
  icons, 213–214*t*, 216
  logic of, 16–18, 210
  naming, 28–29
  organizing, 28
  reviewing, 210–225
  shortcuts, 225
  targeting changes with, 43–63
  types, 214–216
Layers palette, 204*f*, 211
  creating new layers, 20
  graphic icon reference, 213–214*t*, 216
  isolating objects, 73*f*
  Style application, 122
  viewing preferences, 217
Layout options, panoramas, 191
Levels Adjustment layers, 245–246*t*
  natural color enhancement, 85–87
  tone/color correction, 45–46, 50–53
Levels corrections, 140, 141, 141*f*, 165
Levels slider changes, 47–56
library files, Styles, 122, 123
light:
  additive light, 149
  collage, 185
  fingerprint of light, 45
  RGB separation, 149–151
Lighten mode, 219–223*t*
lightening images, 178–179
Lighter Color mode, 219–223*t*
Lightroom program, 241
line segments, noise reduction, 80

Linear Burn mode, 219–223*t*
Linear Dodge mode, 219–223*t*
Linear Light mode, 219–223*t*
linking layers, 31–32
loading:
  Actions, 126, 228
  Styles, 122, 123
Local Adaptation, HDR images, 201*t*
local contrast enhancement, 96
logic of layers, 16–18, 210
Luminosity, 137*t*, 219–223*t*
  Levels corrections, 140, 141, 141*f*
  separating color components, 158
  targeting change, 136–141, 138–140
  unsharp masking, 143–145, 145*f*

M

Magic Wand tool, 176, 177*f*, 246–247*t*
manual effects, 124–125
  automated tools, 125–127, 127
  Drop Shadow, 124–125
  Styles combinations, 127–132, 128–131
  unsharp masking, 143–145
manual mode:
  HDR conversions, 202–204
  panoramic shots, 189, 195–196
  see also freehand…
manuals for cameras, 236
Marquee tool, 21
masking, 25–27
  clipping masks, 214–216*t*
  darkening, 179–180
  freehand, 74–79, 97, 97*f*
  HDR conversions, 203–205
  isolating changes, 66, 74–79, 90–95
  Levels Adjustment layers, 86–87
  lightening, 178–179
  manual Drop Shadow effect, 124, 124*f*
  panoramic shots, 195
  sharpening with, 97, 97*f*
  sky addition, 176, 177*f*
  targeting
    with Blend If, 111
    changes by, 65
  tone, 90–95
  types, 223–224
  unsharp masking, 142–145, 248*t*
  Wild Type Effectz, 130
Masks Palette, 205
merging:
  layers, 32
  shots, 187, 190, 190*f*, 198, 199*f*
midtones:
  Color Balance, 57, 58*f*
  HDR images, 196–197
Modes, 24, 135–159, 219–223
  isolating changes, 66
  unsharp masking, 143–145
monitor calibration, 241–242*t*
Move tool, 246–247*t*
multiple layer highlighting, 22
multiple source images, 187–190
Multiply mode, 24, 24*f*, 137*t*, 219–223*t*

N

naming:
  layers, 28–29
  Styles, 121*f*
natural color enhancements, 85–87

Navigation:
  features in Photoshop, 228–229
  shortcuts, 225
Neutralizer layer, 150, 150*f*
New Layer dialog, 20, 45, 214–216*t*, 218–219
noise:
  highlights/shadows, 50, 51*f*
  reducing, 77–83, 85*f*
non-destructive editing, 13, 14, 44
non-layer concepts, 233
non-sequential layers, 22, 23*f*
Normal mode, 137*t*, 219–223*t*
notation method, 4, 4*f*
numbering layers, 132, 132*f*

O

object isolation, 66–74, 69–72
Offset function, 125, 248*t*
opacity, 24
  Brush tools, 88
  darkening masks, 180*f*
  Fill option vs opacity, 132–133
  isolating changes, 66
  Modes and, 24
  Translucence layer, 130, 131*f*
  unsharp masking, 146
opening images, 3
operating system, 241–242*t*
organizing layers, 28
Outer Glow style, 117*t*
Overlay, 137*t*, 219–223*t*
  Blend If, 110*f*
  Effects, 117*t*
  unsharp masking, 145

P

Paintbrush tool, 246–247*t*
panoramic shots, 188–190, 188
  automated tools, 190
  blending options, 191–196
  HDR conversions, 206*f*
  Layout options, 191
  manual methods, 189, 195–196
  Photomerge use, 190, 191, 192
paste *see* copy/paste
Pattern Overlay effect, 117*t*
patterns for collage, 185
peripheral junk, 5
Perspective option, panoramas, 191
Photomerge dialog, 190, 191, 192
Photoshop:
  color management, 237–238, 237
  computer readiness, 234
  CS4 new features, 50
  essential tools, 239
  external applications, 240–241, 241–242*t*
  Help system, 241–242*t*
  Navigation features, 228–229
  setup, 237
Pin Light mode, 219–223*t*
pixel count, Canvas Size, 194*f*, 196
plug-ins, Photoshop, 240–241
Polygon Lasso tool, 69, 70, 71*f*, 246–247*t*
positioning images, panoramas, 194, 195*f*
preset ranges, Blend If, 107, 108–109
previews, Layer Comps, 34
printing inks, 149
process:
  image editing as, 2–11, 11, 161
  taking image through, 161
productivity, Smart Objects, 33

Prokudin-Gorskii, Sergei Mikhailovich, 147–148, 148*f*
PSD files, 9–10, 10
purposing images, 10, 187–190, 210, 238

Q

quick reference, 209

R

raster content, 32
RAW files, 3, 163
'Read My Mind' tool, 239
Red Channel, 46, 158
  grayscale images, 152
  isolating Levels change, 50, 50*f*
red, green and blue images *see* RGB images
Repair layers, 59–63, 60–61
Reposition option, panoramas, 191
Reset action, Blend If, 108–109
resizing:
  Canvas Size, 37*f*
  image window, 70*f*
  panoramic stitching, 195
revealing layer content, 23
revisions, group layers, 29–30
RGB Channel change isolation, 90
RGB images, 11–13, 12*f*, 147, 149, 156*f*
  color/tone separation, 140
  extracting components, 149–154
  grayscale as color, 152–153
  light separation, 149–151

S

Sample Size, Eyedropper tool, 86
sampling tools, color range, 86*f*, 87
Satin effect, 117*t*, 128, 129*f*
saturation, 146, 171, 172*f*, 219–223*t*
see also Hue/Saturation layer
saving:
  images, 9–10, 210
  routines for, 210
  Styles, 120–122, 121, 123
scanning equipment, 122
Screen mode, 137*t*, 219–223*t*
selection, 65, 66–67, 69, 70, 71*f*
selective corrections, 9, 65
selective darkening, 178–180
selective lightening, 178–179
selective sharpening, 97, 97*f*
separations:
  color components, 147, 149
    actions, 227
    RGB images, 149–151, 152–153
    using, 154–159, 158
  color and tone, 138–140
Separations.atn action set, 153–154
settings:
  Adjustment layers, 66, 175*f*
  HDR conversions, 202*f*
  Layers palette viewing preferences, 217
  Unsharp Mask filter, 96
setup, 233
  image editing, 162
  panoramic shots, 188–190
  Photoshop, 237
shadows:
  Bevel effect, 119
  Blend If application, 105*f*, 109, 110*f*
  Color Balance, 57, 58*f*
  damage to, 94–95

  Drop Shadow, 37*f*, 38, 39, 124–125
  Effects/Styles, 117*t*
  HDR images, 196–197, 204*f*
  isolating, 174, 179
  noise in, 50, 51*f*
Shallow knockouts, 114, 178, 179*f*
shape layer merging, 32
sharpening, 94
  calculation with Modes, 142–147
  Clipping layers for, 97
  Layer masks for, 97, 97*f*
  potential negatives of, 94–95
  Unsharp Mask filter, 96
shooting images:
  additional frame capture, 237
  camera equipment, 235–236
  collage, 187
  HDR, 197
  multiple source, 187–190
  panoramas, 188–190
  see also source shots
shortcuts, 225, 237
shortened tonal range, 47, 48*f*
signature exercise, 13–16
sizing:
  Canvas Size, 36–37, 37*f*, 193–194, 196
  Eyedropper tool, 86
  see also resizing
sky addition, 163, 169–170, 176, 177*f*
slider changes:
  Adjustment layer history, 55*f*
  Blend If, 100–102, 102*f*, 104–105, 106
  Color Balance Adjustment layers, 57, 58*f*
  Levels, 47–56
Smart Objects, 18, 33, 40, 214–216*t*
Snapshots:
  Adjustment layer history, 54–55, 55*f*
  Before and After comparison, 93*f*, 94
soft focus, 90–91, 91–92, 92*f*
softening images, 69
Softlight mode, 91–92, 92*f*, 137*t*, 219–223*t*
software simplicity, 234–235, 241
source shots, 67, 67*f*, 187–190
see also shooting images
special type characters, 229
Spherical option, panoramas, 191
splitting sliders, Blend If, 106
Stroke effect, 117*t*
Styles, 66
  applying, 115–133
  basics, 116, 117*t*
  deleting, 122
  Effects relationship, 119, 120*f*, 224
  loading new, 122, 123
  managing, 122–124
  manual effects combinations, 127–132, 128–131
  names lists, 118
  naming new, 121*f*
  saving, 120–122, 121, 123
Styles palette, 118*f*

T

tail handling, 50
targeting changes:
  with Blend If, 109–110
  Color Modes, 136–141, 138–140
  in HDR conversions, 204*f*
  by isolation, 43–63, 65
  with layers, 43–63
  Luminosity, 136–141, 138–140
  by masking, 65

targeting to masks, 111
template creation, masking, 81
'This Layer' sliders, Blend If, 100–102
tone:
  blending based on, 107*f*
  color separation, 138–140
  correction, 3–7, 9, 29–30, 45–46, 50–53
  isolating change by, 90–95
  Levels Adjustment layers, 45–46, 50–53
  Modes, 136–141, 145, 145*f*, 146, 157*f*, 158
tools list, Photoshop, 239
Transform tool, 195
Translucence layer, 130, 131*f*
transparency *see* opacity
tripod use, 189
Try It Now! exercises, 13, 167–170
  Adjustment layer history comparison, 54–55
  Blend If, 100–102, 104–105, 106, 109–110, 111
  Clone Stamp and Healing repairs, 60–61
  Color Balance Adjustment layers, 57
  Color Layer Color Enhancement, 151
  Duplicate and Create layers, 18–22
  experiencing layers, 13–16
  fill/opacity comparison, 133
  getting started, 34–40
  handpainted color effects, 88–89
  HDR images, 198, 203–204
  highlight isolation for soft-focus effects, 91–92
  isolating objects with copy/paste, 69–72
  knockout application, 111–113
  Layers palette viewing preferences, 217
  Levels for color correction, 50–53
  loading Actions, 228
  manual effects, 124–125, 127, 143–145
  noise reduction, 77–78, 79–83
  RGB black-and-white as color, 152–153
  RGB light separation, 149–151
  Separations
    black-and-white, 155–156
    color and tone, 138–140
  sharpening selectively, 97
  Styles
    applying, 118–119, 122
    deleting, 122
    loading new, 123
    saving, 121
  Unsharp Mask filter application, 96
two-dimensionality of layers, 11–13, 69
type characters, 229
type layers, 32, 116*f*, 214–216*t*, 218

U

underexposure, 168
'Underlying' sliders, Blend If, 104–105
Unsharp Mask filter, 95–100, 248*t*
unsharp masking, 142–143
utilities, actions for, 227

V

vectors:
  masking, 124, 124*f*, 130
  merging layers, 32

versioning:
  group layers, 29–30
  Layer Comps, 34
video layer, 214–216*t*
viewing preferences, Layers palette, 217
Vignette removal, panoramas, 191
visibility, 23, 119, 120*f*
Vivid light mode, 219–223*t*

W

Warp tool, 193, 195
white sliders, 48*f*, 53*f*, 103*f*, 105*f*
Wild Type Effectz, 130
Window menu, 70*f*
workflow definition, color management, 237–238
working files, 9–10